ENGINEERING ISSUE: UPPING A PORT'S COAL TRAFFIC p. 16

JAN 1

January 15, 1968

RAILWAY AGE

THE TRANSPORTATION WEEKLY

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p. 11

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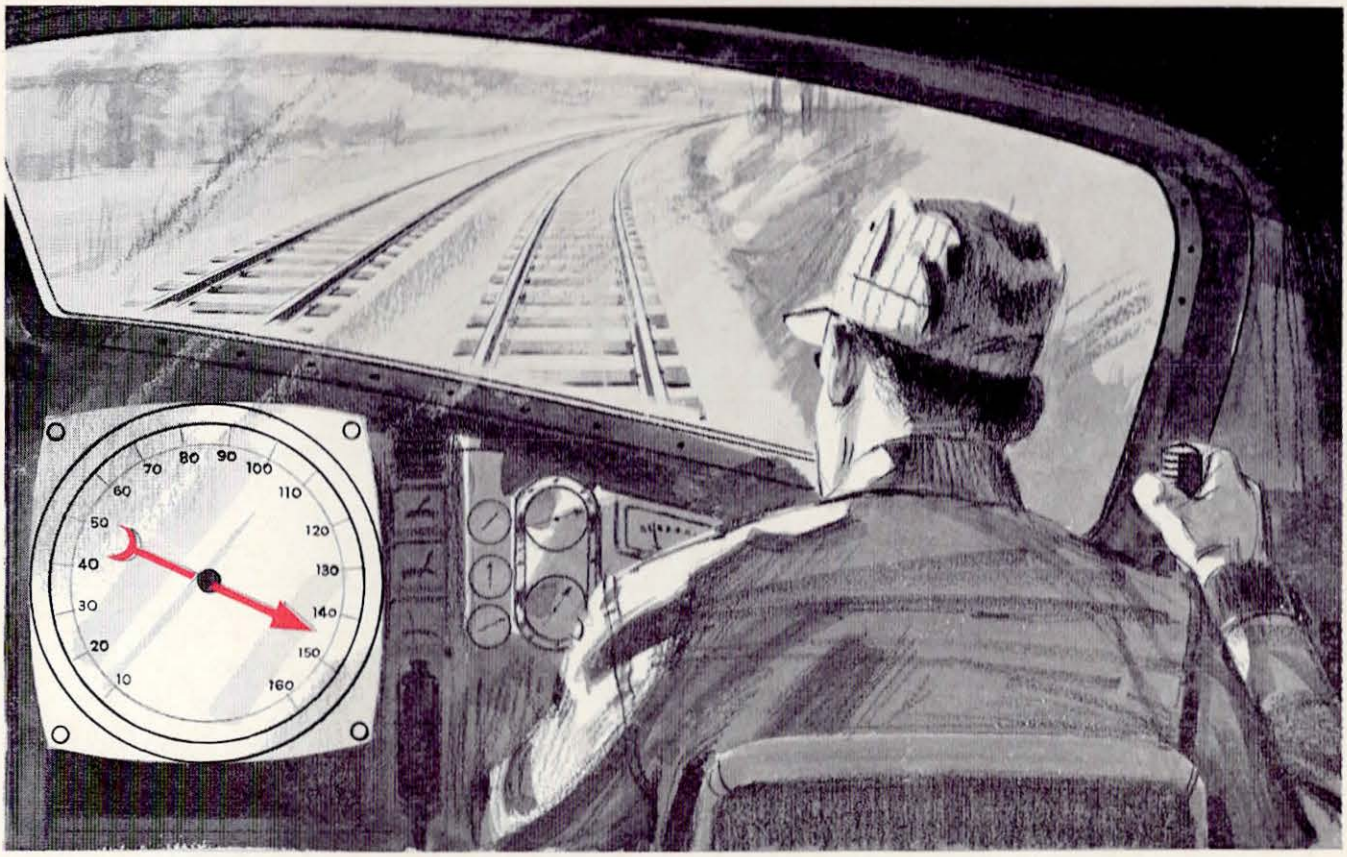

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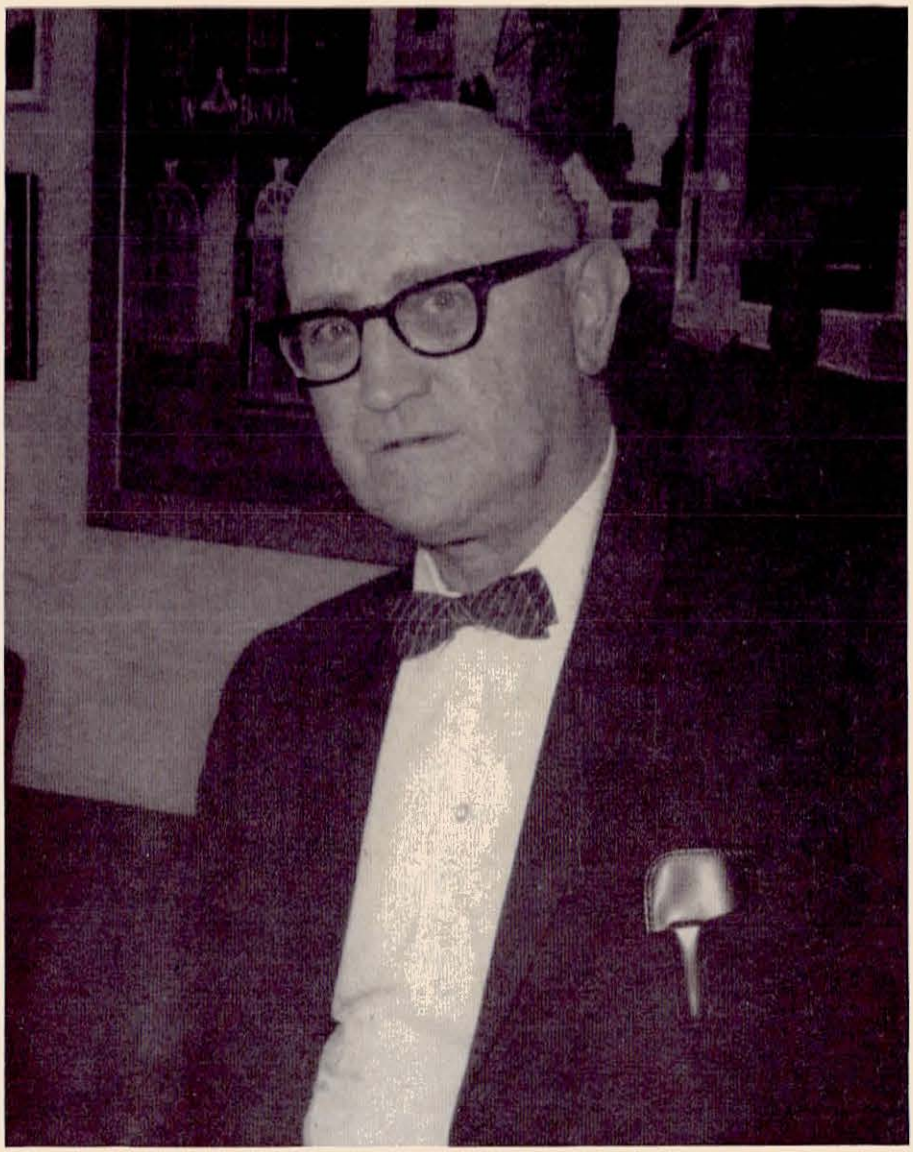

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John N. Kiefer, Jr.

RAILWAY AGE

January 15, 1968 • Vol. 164, No. 2

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. . . AND COMING NEXT WEEK

Annual Review and Outlook: Will railroads spend more on capital improvements this year than in 1967? How many new freight cars and locomotives are likely to be ordered? What's the outlook for traffic? Will the climate in Washington be warmer for railroads? In the Jan. 22 issue, Railway Age editors offer their forecasts, based in many instances on information supplied by railroad chief executives on a confidential basis. In addition, Railway Age will publish a detailed statistical summary of railroad operations in 1967.

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SHORT AND SIGNIFICANT

Big real estate project planned by N&W

Norfolk & Western is getting into the commercial and residential real estate business—and project No. 1 is a big one. N&W, in partnership with a Chicago-based builder and an Indianapolis architect, will develop an $18 million garden-apartment complex complete with shopping center, recreational facilities and an industrial park on an 84-acre tract in Hammond, Ind. The venture, says N&W president Herman H. Pevler, is only a beginning: "We have considerable property along our 8,400 miles of line which is neither particularly suited for industry nor now needed in the operation of the railroad. This land can be developed to become productive and profitable. We feel that in today's market the lands along our right of way can be converted into useful assets for ourselves and the communities of which we're a part."

●

New per diem case being launched by ICC

The ICC is making a second effort to develop what it considers a meaningful record in the incentive per diem case. That's Ex Parte No. 252, which the Commission instituted to determine whether it should add any incentive factor to the per diem charge for rental of freight cars. Earlier proceedings in the case resulted in a Commission report finding the information developed did not meet the statutory standards required to impose an incentive charge (RA, Oct. 30, 1967, p.11). The second try is a rule-making proceeding docketed as Ex Parte No. 252—sub 1. The Commission's order requires some 70 railroads to submit new car-supply data. It also announces that the proceedings will include public hearings.

●

Katy gets approval for diversification

The Missouri-Kansas-Texas has been given Internal Revenue Service approval of its proposed diversification and acquisition plan. The program would be carried out by Katy Industries, a new holding company which has offered to exchange its shares, on a voluntary basis, with the common stock of the railroad. Edward A. Merkle, Katy chairman, said the IRS will permit Katy Industries, when filing a consolidated return, to use the railroad's net operating loss carryover to offset the income of all other members of the consolidated group for subsequent years. Katy Industries was created by an agreement between the managements of M-K-T and the Bangor Punta Corp., of Bangor, Me., parent of the Bangor & Aroostook.

●

ICC, economizing, may drop waybill project

The ICC is considering discontinuing its 21-year old waybill project. The project involves collection of a one-per-cent waybill sample from the railroads, and this information has provided the basis for studies indicating the nature and flow of railroad traffic. Cuts in Commission appropriations are understood to have resulted in the discontinuance plan. The project has been costing about $225,000 a year. Reactions of railroaders would be mixed. Those who have used the figures have generally spoken well of the project. Others have attacked it as an inequitable reporting requirement, applicable to railroads but not other carriers regulated by the Commission. The industry has not spoken officially on the matter in recent years, but its latest statement was one calling for discontinuance. That was a 1954 presentation to the so-called Hoover Commission, the group headed by the late President Hoover which was studying ways to make the government more efficient.

MONDAY MORNING REPORT

ACI: Problems may be developing

According to the experts, automatic car identification (ACI) has the potential to increase freight-car utilization by 10%. Shippers will get better service. Railroads will get a better return on their equipment investment. The railroad industry will be strengthened in its endless competitive battle with the truckers, the water carriers, the air freight people. With so much at stake, it would seem that all hands in the railroad business ought to be dedicated to getting an ACI system into operation as quickly, as smoothly, as economically as possible. Hopefully, that's the way it will be—quick, smooth, economical. But already, there's just the hint of problems cropping up.

Unions take an interest

ACI is a fascinating proposition—and among those most fascinated are the industry's labor organizations. Who, they wonder, is going to be doing what? And how, some are apparently wondering, can we get a piece of the action? Thus far, only one union has put in a bid, via a Section 6 notice. The International Brotherhood of Electrical Workers is demanding jurisdiction over installation, inspection, repair and maintenance of ACI systems. Thus far, nothing has been heard from such organizations as the Brotherhood of Railroad Signalmen, the Transportation-Communications Employees Union, the Brotherhood of Railway and Airline Clerks, or the Brotherhood of Railway Carmen. But it would be a naive individual, indeed, who assumed that these other unions had no thoughts whatsoever on ACI.

The record: It's not encouraging

Automatic car identification is, essentially, a new system. It would seem that a carrier would have the right, in the absolute, to assign the work to whatever class or craft it chooses. But this is not to say that management's decision won't be challenged. History, unfortunately, offers certain negative examples of the organizations' adapting to major technological change. In 1937, for example, a foresighted Brotherhood of Locomotive Firemen & Enginemen locked its members into the diesel revolution. Later attempts to put even more men on diesel crews failed—but nobody really needs to be reminded of the agony involved in finally, in the 1960's, making a start toward elimination of the firemen. Even more recently, the industry has been plagued with jurisdictional disputes related to the computer revolution, with the Clerks and the TCEU locked in combat for job assignments. It's no disrespect to fact to say that railroads could have done better, in taking advantage of the efficiency/economy advantages of both the diesel and the computer, if union rivalries hadn't intervened.

Peace is possible . . .

It's impossible to say, at this point, what course the ACI program will take. It might be that some people are hollering "wolf!" before any fangs have been bared. It might be that the labor organizations will put aside—or not take up in the first place—the kind of intramural rivalry which has given the industry fits in past applications of new technology. It might be that agreement can be reached, easily, quickly and finally, as to who does what.

. . . if the long-range view is taken

If there's one major reason for hoping that ACI can be made a working system without the travail of jurisdictional disputes, it's this: Brotherhood leaders, perhaps more than ever before, know how closely the employees' interests are tied to those of the industry. Perhaps ACI will be recognized as one big building block in constructing a stronger industry—and, therefore, an industry with more and better jobs.

WEEK AT A GLANCE

Railroads set up largest private health and welfare plan

Effective Mar. 1, 615,000 railroad employees will be a part of the nation's largest private health and welfare insurance plan. Until now, the employees, members of 30 unions, had been covered under five separate national plans. The new setup announced by National Railway Labor Conference Chairman J. P. Hiltz, Jr., will provide uniform benefits at uniform costs. As a measure of the size of the program, the annual premiums—paid entirely by the railroads—will amount to about $220 million. Only the health and welfare plan covering federal government employees is larger.

Hiltz praised the cooperative effort which led to the uniform agreement, and indicated that both sides will reap advantages from the single administration plan. At the same time, however, he expressed alarm over the rising cost of coverage—and he noted that if the present rate of increase continues, the time may soon come when employees will be asked to share a part of the cost load "by agreeing to reasonable deductibles and a small percentage of co-insurance."

Mail service: Its flight from rail to air

All first-class mail that can be expedited by air transportation is now being airlifted, Postmaster Lawrence F. O'Brien said last week. "We have, within the past year," he said, "interconnected more than 500 cities in a nationwide airlift network. As a result, 75% of all first-class mail deposited before 5 p.m. is now being delivered the day after mailing, and 90% is being delivered within two days."

O'Brien said the rapid and steady decline of available railroad transportation schedules foreshadowed the establishment of this airlift network. He added: "Today the Post Office has only about 741 passenger trains available for moving the mails. Thirty-one years ago, there were about 10,000, and as recently as 11 years ago there were 2,627. During this time, in more than two thirds of the cases, mail was removed from the train at the request of the railroad. Over the past 14 years, for example, of 2,528 mail-carrying trains discontinued by the railroads, 1,730 were still carrying mail at the time. This rapid decline of available rail service, coupled with a fantastic growth in mail volume, has left us with no alternative but to utilize other modes of transportation to provide rapid mail service."

Meanwhile, O'Brien pointed out that the railroads will receive about $270 million in mail pay this fiscal year, principally for handling containers, parcel post and other bulk mail.

He said the Post Office will be quick to take advantage of technological developments of the railroad industry, such as fast freights and high-speed trains, "when they can be used to improve mail service." He also announced that the Post Office is planning to submit to Congress next year a proposal to eliminate the air mail postage rate and merge air mail and first-class mail into a single category of priority mail service.

A year of progress—but no profit—for CN

"For Canadian National 1967 was a year of growth and achievement in many of its activities," CN Chairman and President N. J. MacMillan announced in reviewing the railroad's operations for the past year. But, pointed out the CN's top officer, "while revenue increases were recorded in all services, they were not sufficient to overcome the combined effects of rising expenses and lower traffic volume, and the company will not show an improvement in its end financial result this year."

In view of the disappointing financial showing, CN's very respectable 1967 performance is all the more frustrating: Passenger services showed a revenue increase of 26%; higher rates boosted freight revenue 3%; CN Telecommunications revenue was up 8% and CN-operated hotels had a 7% hike.

But off-setting all of these gains was a 7% increase in over-all railway operating expenses due primarily to higher wage and pension costs and higher prices for railroad supplies.

Still, CN men could take heart in some of the solid gains the railroad made last year: Addition of 110 high-powered diesels to the locomotive fleet, 700 new box cars and 50 refrigerated piggyback trailers, 150 new cabooses, and centralized traffic control for more than 100 miles of line.

ICC is asked to reopen Northerns case

Rio Grande has petitioned for ICC reconsideration of its Nov. 30 approval of the Northern Lines' merger (RA, Dec. 11, 1967, p. 16). The petition asks for reversal of the ICC decision, reconsideration of the entire merger plan, or a postponement of the effective date of the merger so that D&RGW will have time to decide if it wants to file an appeal. Meanwhile, Great Northern and Northern Pacific have asked their stockholders to meet in St. Paul Mar. 14 to vote in separate meetings on the ICC ruling approving the merger of the Northern roads.

Settlement reached in last '67 wage movement

The file can now be closed on 1967 rail-union wage movements—with settlement between the carriers and one of the smallest of the organizations, the American Train Dispatchers Association. ATDA members get a 6% wage increase retroactive to Jan. 1, 1967. They also get an increase of 4.3% retroactive to Jan. 1, 1968. No demands for further general wage boosts can be served to become effective before July 1. And there's a moratorium, with a no-strike pledge, covering the period up to Jan. 1, 1970, and applying to other types of wage adjustment and most types of fringe benefits.

GUS WELTY'S LINES ON LABOR

WELTY

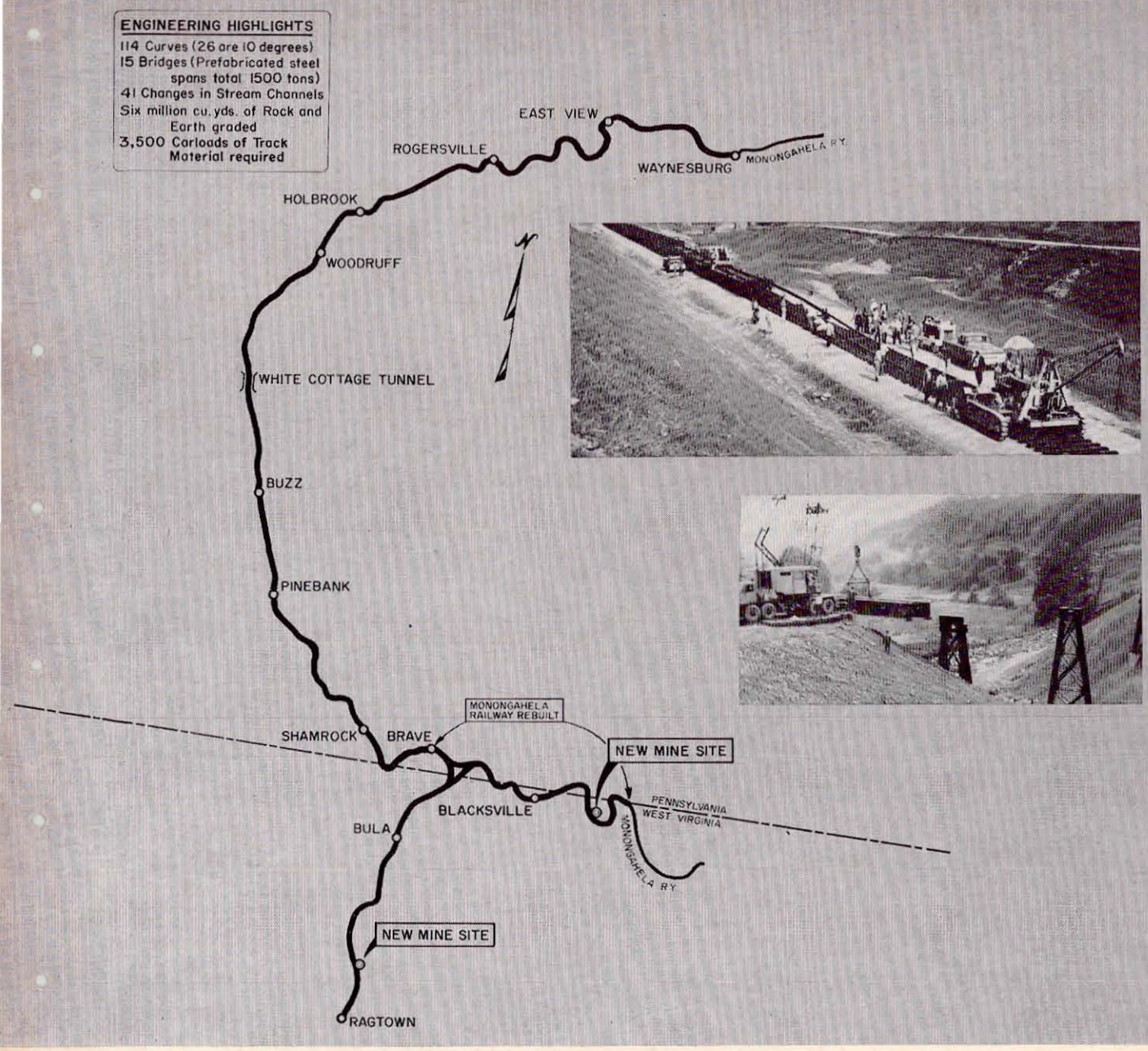
ANYONE FOR PREDICTIONS? Anybody want to take a real flyer on what may happen in rail management-union relationships this year? Anybody ready to gamble on a thing that's less than sure? Then come along for the ride—and place a small wager on '68, the peaceful year. Now, only the daring would forecast that 12 months will pass without a single serious, far-reaching dispute. And only a wild-eyed plunger would stake the grocery money on the ability of management and the unions to go marching along, shoulder to shoulder, every step of the way. But hunch-players might come up winners next Dec. 31, if they figure 1968's symbol to be a rather pacifist bird—a dove with claws, perhaps, but a dove nevertheless.

THIS ROSY FORECAST isn't the product of pot. Nor does it reflect a belief that it's better to be tarred as a Pollyanna than feathered as a Jeremiah. It's merely that sometimes the essence of forecasting is feeling, not fact. And the feeling, in these provinces, is that '68 could be, can be—maybe even will be—the quietest year of the '60s on the labor front. Peace in our time is, indeed, possible. And here's why.

DISPASSIONATE STUDY indicates that the industry has a good chance of getting positive results from negative factors—factors such as uncertainty, unpreparedness, even just-plain-weariness. On the union side, especially, there seems to be a desire to concentrate on internal tidying-up. On both sides, there are evidences of a yearning for more thorough planning and for more effective communications. There's a national election to be considered. There's D.O.T., and the feeling some observers have that the fledgling Cabinet department will carve out for itself some sort of role in management-labor affairs, officially or unofficially. Finally, there's a rather general wish that 1967, a crisis year, may be followed by 1968, a calm year.

OLIVE BRANCHES can be seen, poking through the snow. There's already been agreement on legislation to improve employee retirement benefits. Common handling of health-welfare programs is regarded as possible. A spirit of cooperation in such areas as grade-crossing safety is getting stronger. Even in their remaining court battles, carriers and unions seem inclined to regard legal action as a test of law rather than as a trial by combat. And who could ignore the amicable, 2-year wage agreement with the Clerks?

A LONG-TIME OBSERVER of the management-labor scene puts it well, in summing up: "I don't look for a love-in—but I do see a real possibility of change. Cooperation just might steal the thunder from warfare."



A new rail line crosses rugged country to tap rich coal veins

Meandering streams and steep ridges involved Pennsy engineers in cuts, curves and headaches.

At Monroe, Mich., they're building a steam-powered electric generating plant that will have a huge appetite for coal. When completed in 1971 it will be able to turn out some 1.5 million kilowatts of power to meet the needs of two million people.

Meanwhile, several hundred miles to the southeast, at Blacksville, W. Va., near the Pennsylvania border, construction is moving ahead on two highly automated coal mines. The mines, according to plans, will be able to produce about 100 million tons of the fuel over the next 25 years to keep the turbines at the Monroe, Mich., plant spinning

Obviously, a classic example of a specific supply being available to meet a specific need. The next step: Merely transport the coal from the point of supply to the point of need. And that's where the hitch came in. The needed supply wasn't that readily available.

The coal fields are deep in rugged mountain country laced with streams and ravines and 35 miles from the

nearest railroad connection. To get at them, a new rail line would have to be built back into the hills. The decision was made to build. Consequently, by the time the project is completed early this year, the Pennsylvania and other railroads involved will have spent $20 million to build the line. By mid-December the job had involved moving six million cubic yards of earth and rock, drilling a 1,415-foot tunnel, relocating streams at 41 locations, fabricating and erecting 1,500 tons of steel bridge spans into 15 bridges, and laying rail for about half the railroad in the form of long welded strings. The last rail train is due on the job this week—and it's expected that welded rail installation may be completed during the week of Jan. 22.

● **The master plan.** The implications of the project go far beyond constructing 35 miles of railroad. What is involved is a massive multi-industry undertaking to provide for the increasing electric energy requirements of southeastern Michigan and the Michigan electric power pool. Participants are:

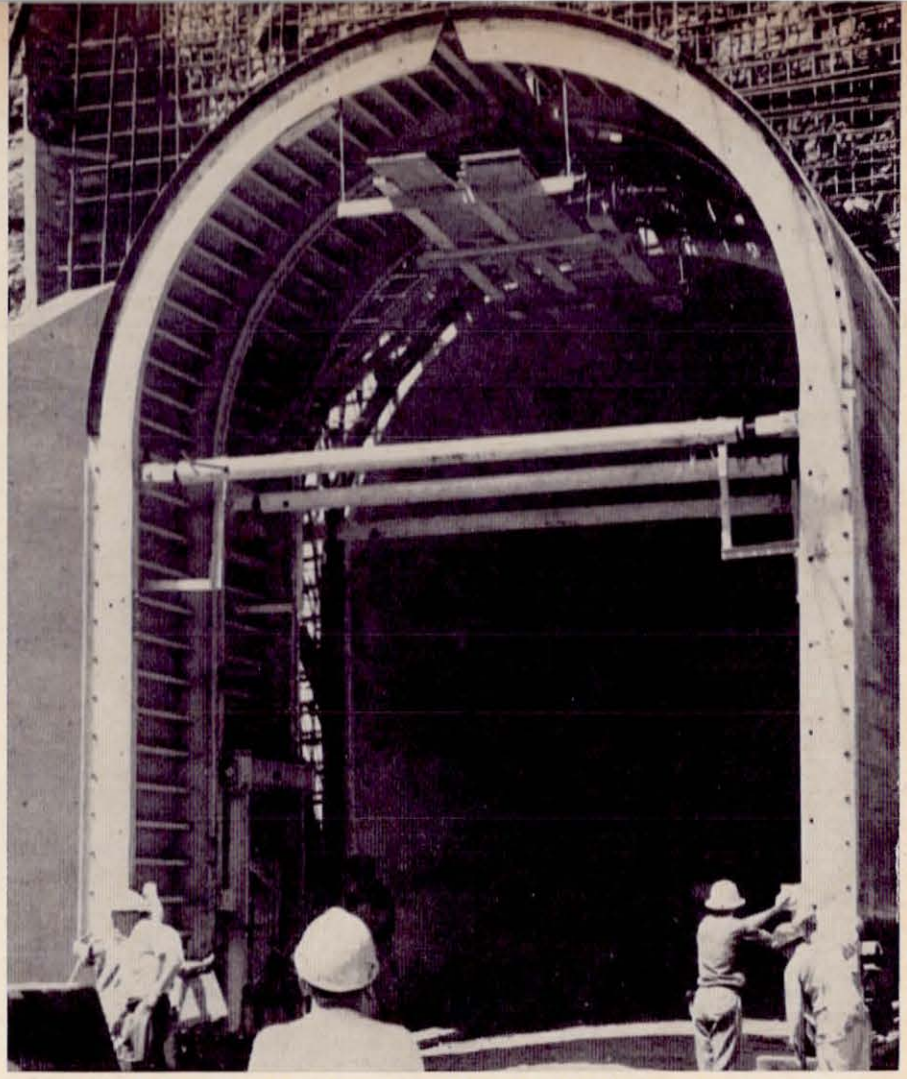
—The electric power industry, in the form of the Detroit Edison Co., which is building the power generation plant at Monroe.

—The coal-mining industry, in the form of Consolidation Coal Co., which is building the two coal mines near Blacksville. Consolidation Coal is a subsidiary of Continental Oil Co.

—The railroad industry, primarily in the form of the Pennsylvania, although other railroads, including the New York Central, are involved. The 35-mile railroad, known as the Waynesburg Southern, is a newly incorporated subsidiary of the PRR.

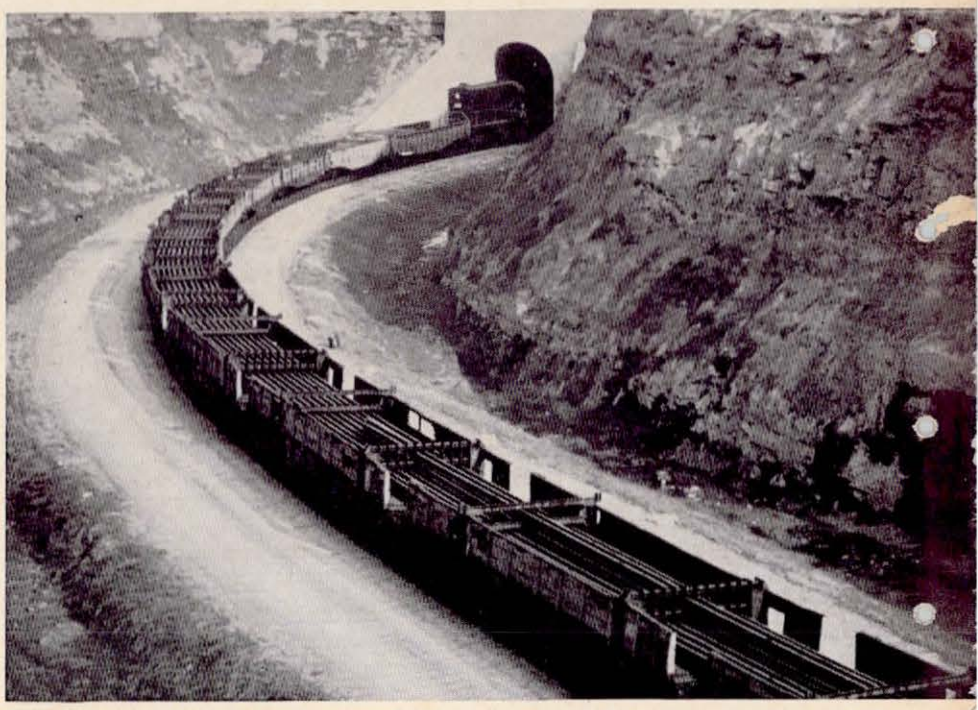
A plan in which coal produced by Consolidation will be transported by railroad from the mines to the Monroe plant in shuttle-type unit trains is the result of a long and extensive joint study by the participants. Each train will consist of specially designed coal cars (each carrying more than 100 tons), and electronically controlled diesel motive power units. The unit-train round trip of 720 miles—from the mines to the power plant and return—will take about 72 hours, including the time required for loading and unloading.

● **The Monongahela is the link.** The Waynesburg Southern will extend generally in a north-south direction. The northern terminus, at Waynesburg, Pa., will connect with the Monongahela Railway. The Monongahela connects with and is jointly owned by the PRR, the Baltimore & Ohio and the Pittsburgh & Lake Erie, a subsidiary of the NYC. The Monongahela feeds coal



FORM WORK for concrete lining of 1,415-foot White Cottage tunnel on the new line is removed after completion of the lining.

Construction cost: $20 million for 35 miles



WELDED RAIL for the Waynesburg Southern moves to work area on the first train through White Cottage tunnel.

traffic to its owners from the Monongahela River valley between Brownsville, Pa., and Fairmont, W. Va. Hence, all the owning railroads have a stake in the expansion of coal traffic in this territory.

From Waynesburg, the projected line takes a wide swing to the west and south. It extends about five miles beyond the West Virginia border to Ragtown, near one of the new mines. At a point near the border between the two states the line connects with a little-used branch line of the Monongahela. The other new mine is on this branch, about six miles east of the junction. This section of the branch is being rebuilt.

About 16 months ago the PRR incorporated the Waynesburg Southern as a subsidiary and started acquisition of the right of way for the line. The PRR also made agreements with the B&O and the P&LE to join in guaranteeing some form of permanent financing of the new line's construction cost, with the understanding it would be leased to the Monongahela for operating purposes.

● **Earlier studies updated.** As far back as three years ago, when the possibility of mine development in the area appeared, railroad engineers started to update extensive earlier studies to determine the most economic rail route to serve them. Pennsy engineers made their new studies for the WS on the basis of operating 100-car unit trains hauling 10,000 tons of coal with four 2,000-hp diesel units. They concluded that a railroad without excessive grades could be built by following creek valleys where grades ran between 0.2% and 0.4%. However, a major obstacle intervened in the form of a ridge rising some 350 feet above a creek valley at White Cottage, Pa., about 13 miles from Waynesburg.

Coast and Geodetic Survey contour maps indicated that a line was feasible with ascending grades no greater than 0.5% approaching the ridge northward from West Virginia. Trains would be under load in this direction. On the other side of the ridge, where loaded trains would be moving downhill, grades could be as great as 1%.

● **Newest technology used.** Every step of the way in locating, designing and constructing the WS has been characterized by use of the latest technology. The final alignment was charted with the aid of aerial photography. In March 1966, the PRR contracted with the Aerial Map Service Co., Pittsburgh, to provide aerial maps of the route from Waynesburg to the West Virginia line. Aerial photos of the five miles of line in West Virginia were supplied by the P&LE.

In June 1966, the PRR designated Swindell-Dressler Co., Pittsburgh-based division of Pullman, Inc., to serve as design and construction engineers. This company was commissioned to provide the right of way, alignment and bridge design, using PRR design criteria for roadbed and bridge construction, including the latest PRR welded-girder standards.

Swindell-Dressler's assignment, with Herbert N. Lucas as project manager, was to come up with an alignment that would satisfy the 0.5% and 1% grade limits and with a maximum horizontal curvature of 10 degrees.

The problem of the summit ridge at White Cottage soon became a choice between a cut about 250 feet deep and requiring 2.5 million cubic yards of excavation, or a tunnel 1,415 feet long. F. D. Day, assigned by the PRR as chief engineer of the WS, decided in favor of the tunnel after debating comparative engineering costs of the alternatives and weighing the long-term maintenance costs of each type of construction.

● **Deep cuts, 10-degree curves.** The meandering streams and steep ridges encountered in plotting the railroad imposed a need for three major cuts and 114 curves, 26 of which attain the 10-degree limit. Nearly half the line—84,439 feet out of 175,000 feet—is on curves.

Big excavating job

Largest cut on the line is at Milepost 7, Rogersville, where 460,000 cubic yards of material had to be excavated in constructing a cut having a maximum depth of 165 feet on a 5-degree 30-minute curve. Two miles west of Waynesburg it was necessary to make a heavy channel change involving Ten Mile Run and to construct a 1,500-ft cut requiring 250,000 cubic yards of excavation. The cut, on a 10-degree curve, has a maximum depth of 130 feet.

The third major cut, at Milepost 22 east of Brave, has a maximum depth of 140 feet and required excavation of 275,000 cubic yards of material. All the cuts are canyon-like in appearance with bermed vertical side walls rising in unbroken increments of as much as 80 feet.

Drilling of the 1,415-foot tunnel at Milepost 13 was started on Feb. 4, 1967. The bore was holed through exactly 90 days later. The tunnel, first to be bored by the PRR in more than 30 years, was designed with a 2-foot concrete lining. It was constructed under a lump-sum contract without track for $1.7 million.

● **Simplified bridges.** In building the 15 bridges required by construction of the WS, design engineers sought to effect savings through simplification and standardization of design. Of the 53 spans required for the 15 bridges, 49 were standardized at either 50 feet in length or 75 feet. The remaining four spans were 108 feet long. All girders were fabricated with 20-inch-wide cover plates. Only one skew angle was allowed—45 degrees right or left. The spans, fabricated in the shop, were all given four coats of paint. All the bridges are open-deck structures.

Costs were held down by the steps taken to simplify and standardize the bridge design. The delivered cost for 1,500 tons of fabricated steel came to 18 cents per pound. This represents a saving of about 6 cents per pound.

Economies were not confined to the cost paid for the steel. The width of the fabricated spans permitted them to fit inside regular gondola cars, simplifying transportation. Further, standardization of the width and thickness of all girder flanges made it possible to adopt a uniform dap (notch) for the bridge ties. Hence, without alteration, any tie could be placed anywhere on any of the bridges.

All concrete bridge piers were built to a single design and to a uniform cross section, regardless of their height. Thus, with a cross section 5 feet wide by 15½ feet long, the piers vary only in height—from 10 feet to 40 feet. Savings in the cost of concrete were realized through purchase on a lump-sum basis for groups of four and five bridges, with the purchase price being as low as $75 a cubic yard in place.

● **Rail is butt-welded.** New 115-lb butt-welded rail is being laid for the entire main track. The rail, being welded into 1,500-foot lengths at the RAMCO electric-flash welding plant in Columbus, Ohio, is being hauled to the site in a string of multi-level rail-rack cars with a capacity for carrying 40 strings each trip.

The general procedure for laying the welded rail strings in track is similar to that used in recent years on other new-line-construction projects involving laying welded rails. Ties, spikes, tie plates and rail anchors are first distributed and positioned along the roadbed, with the tie plates in place on the ties. Guide rollers are placed to facilitate unloading the long rails as they are pulled from the rail train, two at a time, by a straddle buggy. The buggy consists of a crawler tractor of special design.

After a pair of rails has been unloaded, trailing ends are bolted to the forward ends of the previously laid strings. The guide rollers are removed

(Continued on page 25)

meet a family of Griffins

From left to right: Diesel Griffin, Transit Griffin, Freight Griffin and Passenger Griffin. Together, they make up the finest line of steel wheels offered today.

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N&W's $5.75-MILLION COAL STORAGE and transfer facility on Lake Erie includes a high-lift car dumper (foreground) and an enlarged storage area to stockpile coal during the winter when navigation on the Lakes is closed.

New coal facility boosts N&W traffic

Tracks were relocated, coal storage yards were expanded and some sophisticated new machinery was installed at Norfolk & Western's terminal at Sandusky, Ohio to permit handling of coal—even during the winter season. Space is available for the eventual storage of 4.5 million tons of coal.

VESSELS ARE LOADED at rate of 8,000 tons per hour from silos. Loading rate can be increased another 3,000 tph by dumping cars in apron of dumper.

At a cost of $5.75 million the Norfolk & Western has added a coal-storage and transfer facility to its ship-loading dock at Sandusky, Ohio, on Lake Erie. In addition to providing extensive capacity for ground storage of coal, the facility adds greatly to the capacity for loading coal into lake vessels. The result has been a substantial increase in N&W coal traffic.

The improvements have overcome several shortcomings in the previous facilities. For one, the lack of ground storage had made it necessary to halt movement of coal to the dock when ice on the Great Lakes prevented the movement of ships.

Also, the demand by industries on the Great Lakes for coal produced by mines along the N&W was increasing. Meanwhile, new mines were being opened. In other words, the demand was there and the supply was available. The problem was to increase the loading capacity so that more ships could be loaded during the navigation period.

N&W's answer is the new coal-storage and transfer terminal. The plant uses an existing high-lift car dumper with a ship-loading capacity of 3,000 tons per hour. The new facility adds 8,000 tph capacity, so ships can now be loaded at the rate of 11,000 tph. It also provides for ground storage of more than a million tons of coal.

• **No peaks and valleys now.** Work was begun on this project in July 1966, and was completed by McDowell-Wellman Engineering Co., Cleveland, in May 1967. The new improvement has resulted in a continuity of operations and employment both at the mines and at Sandusky. Even though the ground-storage facilities were not available until May, about 4,000,000 tons of coal were dumped the first ten months of 1967, compared with 3,000,000 tons for the first ten months of 1966, an increase of 37.5%.

Other benefits derived from the new terminal are the shortening of ship turn-around time by as much as four hours because of faster loading, the capacity to load more ships per day, and prompt return of empty coal cars to service.

The N&W had three coal-dumping piers—designated Piers 1, 2 and 3—at Sandusky. The road decided that Pier 3 lent itself most to the new improvement and that Pier 2 could be retired. Facilities for the operation of Pier 3 included receiving, storage and empty-car yards, small pusher engines and their tracks for pushing cars to a barney and pit, a long ship dock, a high-lift car dumper and kick-back track, and an office, warehouse and machine-shop building.

When starting work on this project,

the road decided the first phase should be the facilities to make the plant operable in winter so that coal stockpiles could be built up in readiness for the first boats in the spring. Accordingly, a ground-storage area was formed by relocating tracks and filling in low areas adjacent to Pier 9. The storage area thus formed can store 1.2 million tons of coal. Space is available to increase this to 4.5 million tons.

● **Thaw house built.** It was necessary to construct a car-thawing facility so that coal would be loose enough in the cars for dumping during winter. This facility, built a short distance ahead of the existing barney pit, can handle twenty 100-ton cars per hour at zero temperature.

The thaw house contains electric infra-red heating elements and is built in two sections. The first section is approximately 24 feet by 144 feet, and the second 32 feet by 54 feet. The latter is wide enough to permit a small pusher engine, operating on a separate track, to enter the building for moving cars out of the thaw house to a heat-soaking area in advance of the barney pit.

The configuration of heating elements between the rails is such that heat in the coupler areas is minimized. Aluminum shields around the hose couplers are used for this purpose.

● **Moving coal to storage.** To get the coal into storage, the operation uses the existing high-lift car dumper, an extensive new eight-belt conveyor system and three large machines that take the coal from the last conveyor belt of the system and deposit it in the storage space. This installation is designed to move the coal from the dumper to storage at the rate of 3,000 tph.

The last belt to the storage area parallels the seawall. Straddling it is a machine called a traveling tripper-hopper which is self-propelled and runs on rails. The tripper-hopper can be positioned anywhere along the belt length. It intercepts the coal and passes it to a cross-conveyor that deposits it at the side in a windrow or stacking conveyors. Initially, while the two other huge machines were being assembled, the windrowed coal was moved back to the other side of the storage area by bulldozers.

The storage area will store multiple grades of coal. These must be kept separate to comply with users' specifications. The piles of coal extend across the storage area, which is about 320 feet wide. To get coal from the traveling tripper to the far edge of the storage area, two large mobile conveyor units are provided. One, called the bandwagon, takes coal from the cross conveyor of the traveling tripper and passes it by conveyors to another unit, called the bucket-wheel stacker-reclaimer, which deposits it on the ground.

● **Crawlers provide mobility.** The bandwagon is a large self-contained unit that dwarfs everything in the storage area. It has long conveyor booms that give the machine a total reach of 261 feet. The upper center body of this unit is mounted on two widely spaced crawler tracks that provide mobility and stability. They are driven by separate electric motors. The center body rotates on the crawler base.

The stacker-reclaimer is of German design. It, too, is mounted on a crawler-track base designed so that the crawlers can absorb unevenness of ground surface. This base supports a revolving steel frame. The rear part of the frame carries a machinery house with its main machinery and ballast boxes. The forward end of the frame carries a bucket-wheel conveyor boom and opposite it a discharge conveyor boom with transfer hopper. These rotate independently of the base frame on a large-diameter single ball bearing. Both booms are pin-connected and are raised and lowered hydraulically.

Stacking the coal

When coal is being placed in storage, the traveling tripper is positioned where a pile is to be formed. The bandwagon and stacker-reclaimer are then positioned end to end so they can pass the coal out to the far edge of the area. The stacker-reclaimer can stack coal 35 feet high. By working the two machines in combination with the stacker-reclaimer on a raised, compacted section of the coal pile, an additional 35 feet in pile height may be obtained.

● **Storage pile to vessels.** The second phase of the terminal project consists of facilities for reclaiming coal from storage and loading it into ships. This phase involves reversing the direction of the bandwagon and stacker-reclaimer so that the latter's nine digging buckets on the wheel pick up coal and the conveyors move it to a hopper on the traveling tripper. From the hopper the coal goes to the seawall belt, which is reversible, and is passed to a chute that feeds a belt that raises and deposits the coal into three clustered silos, each 40 feet in diameter. The three silos will store a total of 10,000 tons.

The silos are unloaded from the bottom onto one of the same belts used when placing coal into ground storage. This belt, reversible in direction, will convey coal at the rate of 8,000 tph to another belt that raises and deposits the coal on a short conveyor that empties into the pan of the high-lift car dumper. From here the coal goes through a telescopic chute to the holds of a vessel.

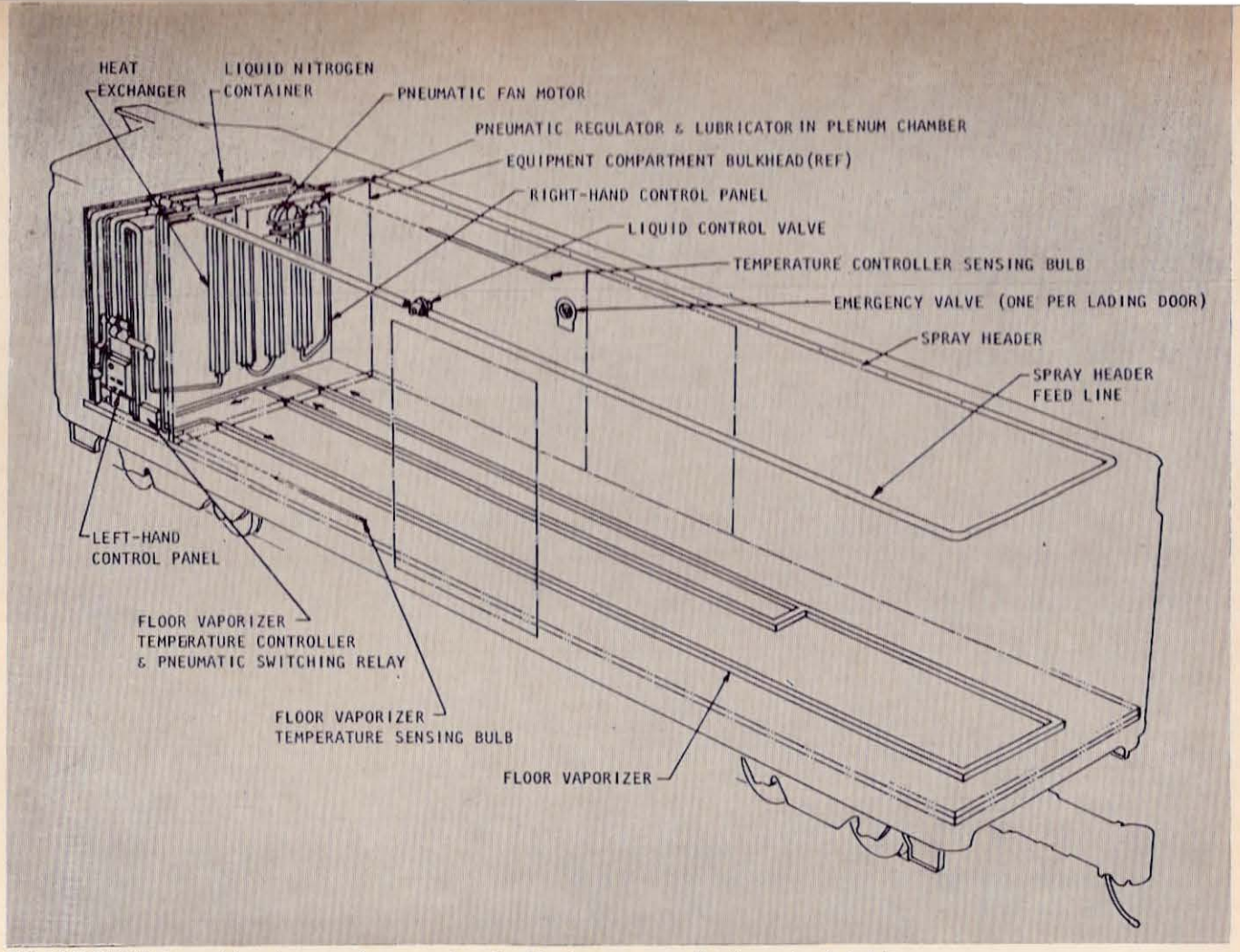
● **Various routings possible.** The new facilities have added a great deal of flexibility to the operation of the Sandusky coal terminal. Although owned by the railroad, Pier 3 is operated by the Lower Lakes Dock Co. (LLDC). During the closed navigation season, the coal movement is all one way—to the ground-storage piles. But, when the lakes are open, various possibilities for the movement of coal are available.

Coal trains are hauled by the N&W from the mines to Portsmouth, Ohio, where the cars are weighed and switched. Information on these cars is reported to the Ore & Coal Exchange in Cleveland, which schedules the movement of vessels to various lake ports. This information, along with a report of the cars under load and in transit, it also made available to railroad and dock forces at Sandusky. After the cars arrive in the receiving yard at Sandusky, they are switched to group them by grades of coal and then they are set in a storage yard.

● **Making arrangements.** When the Ore & Coal Exchange notifies LLDC that a boat will arrive at a specified time of a day to pick up so many tons of a certain grade of coal, LLDC will arrange for loading this tonnage in the vessel. The railroad daily load lists shows how many tons of that coal are under load in the car-storage yard or in transit. It is then determined how much coal will be dumped from cars and how much taken from the ground-storage pile to complete the ship load. Cars can be brought directly to the high-lift car dumper and their coal loaded into the vessel at the rate of 3,000 tph.

Coal boats vary from 2,700 to 27,000 tons in capacity. If a 2,700-ton ship is to dock for coal, there is no advantage in filling the silos, unless there is no coal of the grade specified on cars in the yard. If the vessel has a capacity of 23,000 tons, the silos will be filled and the coal later loaded into the ship at the same time that cars are being dumped. The silos can be filled with coal from the storage piles in three to four hours.

● **How silos are used.** As one of the three silos is emptied, it will be refilled with coal, drawn from the ground storage, of the grade required for the next boat to dock. If all the coal in the silos is not loaded into the vessel, silos can be emptied by sending the coal back to ground storage. If all the coal in the three silos is used to fill a vessel and more is needed, coal can be drawn from ground storage and passed through a silo to the vessel. ■



POLARSTREAM in refrigerator car incorporates liquid storage capacity for extended trips.

Cryogenics pushed as freight coolant

Ten cars have recently been equipped with a refined version of Polarstream, Linde's cargo-cooling liquid-nitrogen system.

Some futures might be said to be "on ice," but that certainly won't be the case with railway refrigeration. "The ice refrigerator car has had it," observed one perishables shipper recently. Railroads, faced with the mounting costs of ice and labor, would probably be quick to echo this observation.

At the beginning of 1968 there are an estimated 55,000 ice reefers still active—down about 50% from the ownership of a decade ago. Just what will take the place of the remaining ice cars is far from decided . . . and obviously some of the replacements will not be cars, but trailers.

• **What refrigeration?** When it comes to refrigeration systems, that too is still up for grabs. Just 20 years ago the first mechanical cars were reported in service—those four have swelled to about 17,000 today. For the past half-dozen years the producers of compressed and liquefied gasses have been attempting to introduce cryogenic refrigeration to compete with mechanical systems—a concept which, so far, has been more widely accepted for trailers than for railroad cars.

Cryogenics is the science of producing extremely low temperatures. Liquid nitrogen at 320 degrees below zero certainly qualifies as such a refrigerant. It is on the basis of its cost, availability and inert physical properties that nitrogen in the liquid state has come to be regarded as the only commercially feasible cryogenic refrigerant.

• **Pushing Polarstream.** Ten refrigerator cars have recently been equipped with the latest Polarstream system, as Union Carbide's Linde Division calls its liquid-nitrogen refrigeration. Since its introduction, over 6,000 Polarstream systems have been sold for a wide variety of food shipping requirements, mostly in highway vehicles.

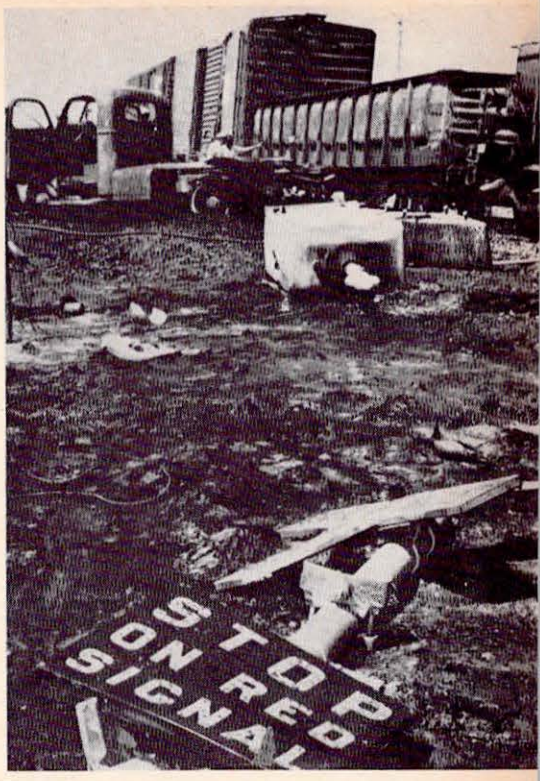
In all of the Polarstream installations, liquid nitrogen stored in a heavily insulated container on the car, trailer or container is released under pressure into the cargo space through a piping system and "spray header." Metering and temperature devices discharge controlled quantities of nitrogen on a demand basis to hold the cargo at a preset temperature level.

The ten new Polarstream cars are all conversions of earlier installations, incorporating the latest refinements developed by Linde. Eight are handling fresh produce; two are in meat service. Santa Fe and Burlington have worked with Linde on Polarstream refinements.

One feature is the "flat-wall" refrigerant container, specially designed for service in refrigerator cars and piggyback trailers. It enables the large quantities of refrigerant needed for long trips to be stored in a minimum of cargo space. Previous equipment for the transport and storage of cryogenic gases has been cylindrical in design. ■

Crisis at the crossing: Is safety just a few more crashes away?

Railroads and government groups took some big steps toward solving the accident problem in '67—but major hurdles remain.



It was the day after Christmas. Mrs. Elizabeth Smith and her 13-year-old daughter Pamela drove toward a New York Central branch crossing near Albion, N.Y. Mrs. Smith apparently thought the crossing lights flashed accidentally. She knew the branch line. No train was scheduled for that time of day. Whatever her reason, Mrs. Smith sped past the flashing red lights. Seconds later Elizabeth and Pamela Smith were dead. A Central mail train had been rerouted through Mrs. Smith's crossing because of a mainline derailment.

The two deaths were among the last on the 1967 list of grade crossing fatalities. But did the year mark another stalemate in the fight for crossing safety? Or was it a year of progress toward that goal? The answer lies in two facts. First, there were fewer deaths like Mrs. Smith's in 1967 than in 1966. Second, there was a surge of elements needed for solution of the grade crossing problem. Rather than a stalemate, the year may have been a turning point. If the trends set off in the good year of 1967 are fueled properly in the next 12 months, 1968 could be a very good year.

• **Deaths drop.** Figures released late in December by the Department of Transportation for the first ten months of 1967 show a 4% decrease in the number of deaths caused by train-motor vehicle collisions. Fatalities totaled 1,297, compared with 1,353 for the same period in 1966. Figures for the entire year will be released late in February. If they show that the downtrend continued in November and December, the final 1967 figure would be about 1,440 deaths, compared with 1,500 for 1966. Though small, this would be the first decrease in five years. And it would be a considerable drop from transport authorities' estimate of 1,800 for the entire year.

"While this improvement is far from enough, it is a step in the right direction," says one of the safety movement's leaders, Joseph H. Hays, Association of Western Railways general counsel. Hays points out that the D.O.T. figure must be balanced with "the probable increase in the number of motor vehicles and their mileage during the same period, for which figures aren't yet available."

• **Solution-elements surge.** Along with favorable statistics, 1967 produced a number of elements needed for solution of the rail-highway crossing problem. The list is an encouraging one:

—The Department of Transportation launched a crossing safety program that alrealy is gaining speed under direction of a joint action committee of the Federal Railroad Administration and the Federal Highway Administration.

—Congress created the National Transportation Safety Board, whose first crossing project already is completed.

—A nationwide joint management-labor program for prevention of crossing accidents moved through its first full year of concrete operation.

—A major research project was completed as crossing research in general took some big strides.

—The hatchet of "whose responsibility" was buried quietly at an unprecedented meeting of all interest groups concerned with the crossing safety problem.

• **Questions for 1968.** The problems of 1967, however, remain as the problems of 1968. This list is equally impressive:

—Who will pay for the crossing improvements that everyone agrees are needed?

—What can be done to gain strict enforcement of crossing laws?

—How can the public be educated to realize that responsibility for crossing safety goes beyond the railroads?

—Where should research efforts be directed for the best results: On low-cost equipment? Hazard ratings? Uniform laws? Accident reporting?

—How should the divergent forces be marshalled for the 1968 campaign? What type of program should be launched?

In the words of Everett Hutchinson, D.O.T. undersecretary, "There are many hindrances to implementing a program that is broad enough to safeguard every crossing in this country. For example, a large percentage of grade crossings are not on federal-aid highways and therefore are ineligible for federal funds. Sooner or later, we must tackle the very thorny problem of who pays for what. This fact also emphasizes the need for a program that is much more than just another expensive federal project. It must be a program that will allow local implementation with a minimum amount of money. We must find solutions that can fit into city and county budgets."

• **The D.O.T. crossing committee.** Hutchinson's statement points to the most significant 1967 development for crossing safety, the launching of the D.O.T. crossing safety action committee. Formation of the group and an 11-point program was announced in October. Since then the committee has been getting organized and educating itself. This week, action is being taken on the first of the group's 11 planks — the securing of a "more accurate national inventory of the grade crossing situation."

Through the Federal Highway Administration, the action committee is issuing an instructive memorandum to state highway departments recommending (1) that grade-crossing data be completed and updated within 60 days and (2) that diagnostic teams including all interest groups be organized to identify

D.O.T. program stresses state-level action

and recommend appropriate protective measures. At the same time, the Federal Railroad Administration is canvassing state public utilities commissions to obtain data concerning the legal and administrative details of their jurisdiction as well as their activities.

Following its second plank, the action committee is asking state highway departments to select one grade crossing for each 4,000 miles of federal-aid highway to be used in a study project aimed at development of models to demonstrate the full potential of existing and new forms of protection.

Other parts of the D.O.T. program for 1968 are: Encouragement of railroads to rehabilitate existing protective devices and crossing sites under their jurisdiction; identification of "high hazard" crossings that need better warning devices; improvement of accident data collection and reporting enforcement; pinpointing of crossings frequently used by schoolbuses; an attempt to close or limit the use of existing crossings and to prevent the opening of new ones; study of federal and state motor-carrier safety regulations concerning mandatory stopping of certain vehicles; speed-up of the accident investigation program of the Bureau of Motor Carrier Safety and the Bureau of Railroad Safety; and initiation of a study to determine the logical sharing of responsibility. All of these currently are being executed by committee subgroups.

● **Where the emphasis is.** Throughout the program, the emphasis clearly is on state-level action. As an FRA spokesman puts it: "States definitely are coming into the picture, and are admitting that the railroads cannot do it alone. Initially, they are coming in to help with maintenance costs. The solution definitely is on the state level, and D.O.T. will act basically as a channel for state efforts. D.O.T. has the capability of working through state agencies."

A second important crossing-safety event in 1967 was creation by Congress af the National Transportation Safety Board in April. The Board's main job is to determine the cause or probable cause of accidents. However, "We believe the Board's greatest contribution to the cause of transportation safety will be the development of better preventive programs, rather than to be strictly an investigative agency," says Oscar M. Laurel, NTSB member.

Following this principle, the Board expects to release this week results of its study of the first of three 1967 crossing tragedies that it has chosen for investigation. Called the Sacramento (Calif.) grade crossing case, it involves the February deaths of father, mother and seven children who drove past flashing red lights into the path of a 60-mph Southern Pacific freight train. The recommendations cover the development of better protective devices and the prevention of similar accidents.

● **Labor-management joint action.** Federal action was matched by strides within the railroad industry itself during 1967 as action programs undertaken jointly by railway labor and management representatives got moving at a steady pace. Conferences held during the first half of the year in Chicago, St. Paul, St. Louis and San Francisco set things moving during the second half toward the program's goal—compliance with existing laws covering safe operation of motor vehicles at rail-highway crossings.

Involving the motorist

Among the projects promoted in the joint effort (Grade-Crossing Accident Prevention Program or G.A.P.P.) is the "Near-Miss" campaign aimed directly at the motorist himself. Under the plan, train crews report to a predetermined center the circumstances of almost-accidents that occur when a driver races across the path of an approaching train. Under various forms, the plan includes the subsequent relaying of the occurrence to the vehicle's owner or driver. Under the "Ohio Plan," for instance, the state police get the reports and in turn contact the person involved.

Guided by Joe Hays, the G.A.P.P. plan also includes meetings with governors, state and local police, state directors of public education, school superintendents, state highway departments and state railroad or public service commissions. The meetings cover crossing-law enforcement and driver education regarding the crossing hazard. And this year Hays is adding another plank—advance warning signs.

"The railroads are spending thousands of dollars to brighten their crossing signs. However, we find that in most cases advance warning signs along the roads and streets are placed to fit 1930 motor vehicle speeds. In one state last year 1,369 lowered crossing gates were smashed by vehicles going so fast they couldn't stop. We believe every motorist is entitled to be warned when he is approaching a crossing. Warning signs should be placed far enough back from the crossing to give time for their message to sink in and for the driver to react," Hays says.

"Our campaign is picking up momentum, and we are confident it will show improved results in 1968," he adds.

● **Crossing research advances.** A fourth bright spot in the 1967 crossing picture was the advance of crossing safety research. There was so much research, in fact, that the D.O.T. action group expanded the research part of its program so that it now consists of research on research completed or under way. Based on this review, a committee report will be forthcoming soon listing specific research goals for 1968. A chief research area will be the field of accident reporting and analysis. Another will be the development of improved protective devices.

Aiding this project will a new AAR committee set up late last year to work with D.O.T. "in research programs on improved safety at highway-railroad grade crossings." As AAR president Thomas M. Goodfellow says: "We have proposed a joint research program with the Department designed to produce sound answers to many of the important questions affecting safety at highway grade crossings. Such a research program would utilize modern scientific research techniques. These would include a critical examination of all present practices, analysis of new proposals, and, finally, conclusions and recommendations on what action should be undertaken."

During 1967 a major research project on factors influencing crossing safety by Alan M. Voorhees & Associates, Inc., of McLean, Va., was completed for the National Cooperative Research program administered by the Highway Research Board of the National Academy of Science. Currently being printed for general distribution, the report cites inadequate advance warning as a major anti-safety factor. It says that drivers moving at prevailing highway speeds generally don't have enough sight distance during their approach to crossings to enable them, by normal braking or accelerating, to avoid approaching trains. The report proposes a new method of determing adequate sight distance that combines highway design features, train speed and motor-vehicle speed. These other factors are analysed: Probability of train arrival and vehicle arrival, type of crossing protection, crossing environment, crossing angle, approach gradient and the number of highway lanes.

● **Symposium sounds agreement.** One of the important meetings on crossing safety held in 1967 was a symposium at Texas A&M University in De-

(Continued on page 31)

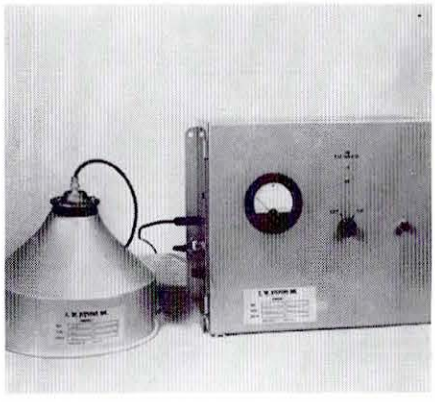
NEW **PRODUCTS** REPORT

Prime Mover Tractor **(RA-1)**

The Austin-Western Model 22 prime mover tractor will push or pull nine 100-ton cars on a paved level surface with the use of front and/or rear-mounted railroad car couplers, either fully hydraulic or fixed. The fixed couplers open hydraulically and close on contact. The 25,500-lb vehicle is equipped with a Borg and Beck torque converter and has a torque ratio of 2.12 to 1. Speeds vary from 2.7 mph in first gear to 35 mph in sixth gear on a paved road. *Baldwin-Lima-Hamilton.*

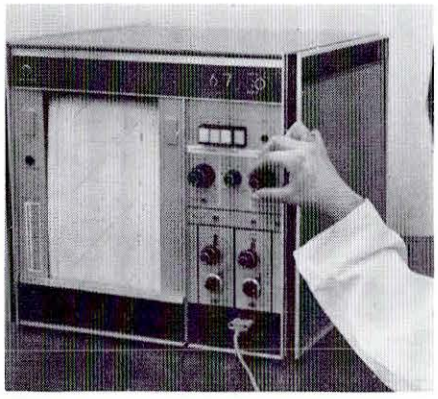
Microphone **(RA-2)**

Hi-Lo impedance change-over permits operation of a new desk microphone on either 50/250 ohm line or high impedance input. The unit has high output level, smooth response and semi-directional pick-up. The microphone, of the pressure-operated controlled magnetic type, has a control bar to provide the push-to-talk feature. An auxiliary locking-non-locking switch is provided for channel monitoring of tone coded squelch systems. *Signal & Communications Div., WABCO.*



Sonic Measuring Device **(RA-3)**

The Sonargage can monitor the level of most any liquid, slurry or solid in practically any container, even particles in piles, according to manufacturer. Measurement of level (depth) is said to be accurate and continuous at distances up to 100 ft, and operation is virtually trouble-free because sensor head does not have to contact material. Problems of corrosion, abrasion, vibration and shock are thus eliminated. The device is 100% solid-state, electronic and so nar based. *C. W. Stevens.*



Electrostatic Recorder **(RA-4)**

A new method of strip chart recording offers the following advantages: a three-channel DC to 3,000-Hz direct writing strip chart recorder with no moving parts, ink, arcing or heat elements in the writing process; a writing speed of 20,000 inches per second with less than 1% overshoot; direct interface for computer readout or computer processing; integral grid chart imprinting with interchangeable grid patterns; continuously variable chart speeds with correlated time-base logging; and a 50-channel event recorder utilizing the same electro-static recording process.

The Statos 1 recorder has a fixed recording head assembly which will simultaneously record two analog signals and one digital signal across 100 millimeters full scale. Without moving pens, galvanometers, mirrors or other mechanical writing components, Statos 1 records three simultaneous signals, at either DC to 1.5 kHz (full scale 100mm resolution) with 1.0% accuracy; or DC to 3kHz (50mm resolution) with 2.0% accuracy. Additionally, the recorder has eight event marker channels. *Varian Associates.*

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THE RAILWAY AGE GROUP

30 CHURCH STREET, NEW YORK, NEW YORK 10007

New rail line to coal veins

(Continued from page 13)

and moved forward. The newly unloaded rails are then partially spiked and the rail train is moved forward enough to permit the next pair to be unloaded. Full spiking, ballasting, raising, tamping and lining the track are performed behind the rail train. Slag ballast is being used. It is hauled in 40-car trains to Waynesburg from a processing plant near Pittsburgh.

● **Rail-laying challenge.** Unloading the welded string on the 10-degree curves found on this line presented a challenge to the track-laying contractor—W. A. Smith Co., Kansas City. The challenge became apparent as a result of the increased rail friction created when the rail train stood on a maximum curve while rail was being pulled off around the curve and frequently into a reverse curve beyond. This resulted in the rails turning on their sides or jumping completely from the guide rollers. Further, the rail puller was not always equal to the task of pulling two rails simultaneously. But all problems were ultimately overcome by these measures:

—A winch with an ingenious arrangement of clamps and pulleys was added to the end of the rail train to provide auxiliary rail pulling power.

—Rail connections on the pulling tractor were lowered to place them closer to the tie level.

—The bases of the rail guide rollers were broadened to give increased stability, and the frequency of their spacing on curves was increased.

—A pair of chutes on a series of three dollies was added to the end of the rail train to provide a means of lowering the rails gradually from car level to track level.

● **How the winch works.** The rail-pulling winch was mounted on three flat cars, with the gasoline-powered winch on the center car. One pair of cables and rail clamps pulls the rails off the train racks and up to and under the winch. A second pair pulls the rails from the winch to the chute and down onto the guide rollers on the ties.

The winch device is said to have sufficient power to push 1,500-foot rail lengths independently of the puller tractor. This is the method being used to get rails across bridges over which the tractor cannot operate. The ultimate plan is to use the winch exclusively, with only a simple "mule," steered by remote control, to guide the rail ends. ■

LUTHER MILLER

AS THE EDITOR SEES IT...

THE PERILS OF FORECASTING—Economic forecasters operate under some of the same handicaps that beset their colleagues in the weather predicting business. They study all the available charts, leaf through the pages of recent history to see what has happened under similar conditions in the past, and then issue a cautious bulletin. But the time comes when even the best of them have to look out the window and see what's really happening. Oftentimes, at this point, the forecast has to be changed to correspond with the facts. This is especially true of those predictions prepared by professional optimists (of whom we have a few, especially among suppliers) and compulsive pessimists (of whom we also have more than our share).

SEPARATING THE BLUE FROM THE GRAY—The safest forecast, obviously, is something like "mostly fair, with showery periods." Right now, it looks like a pretty accurate one for the railroads in 1968. The real job lies in distinguishing, ahead of time, between the clouds and the patches of blue.

How will a predicted 7% increase in the G.N.P. affect railroad ton-miles?

How will this, in turn, affect investment in rolling stock and fixed plant? Will the sun shine again on carbuilders, or will there simply be a blush of prosperity on the horizon? What will happen in signaling and communications, maintenance of way, materials purchasing, mergers, legislation, marketing, operations?

For several weeks, our editors have been searching out the answers. In scores of personal and telephone interviews, they have picked the best brains in the industry for indications of how the wind is blowing.

The resulting forecasts will appear in our Jan. 22 "Annual Review and Outlook" issue. This issue is, in a way, Railway Age's own New Year's greeting to our readers. We hope it will be a happy one; we can only guarantee that it will be as honest as we can make it. Our main goal is to be not-surprised when we take a look out the window at mid-year.

D.O.T. AND THE RAILROADS—One good omen for the New Year is Washington's increasing concern over problems that confront railroads in a time of great and unsettling change. This fundamentally sympathetic attitude was underscored in an exchange between Transportation Secretary Alan Boyd and a panel of young questioners on ABC-TV's "Youth Wants to Know" program Jan. 7.

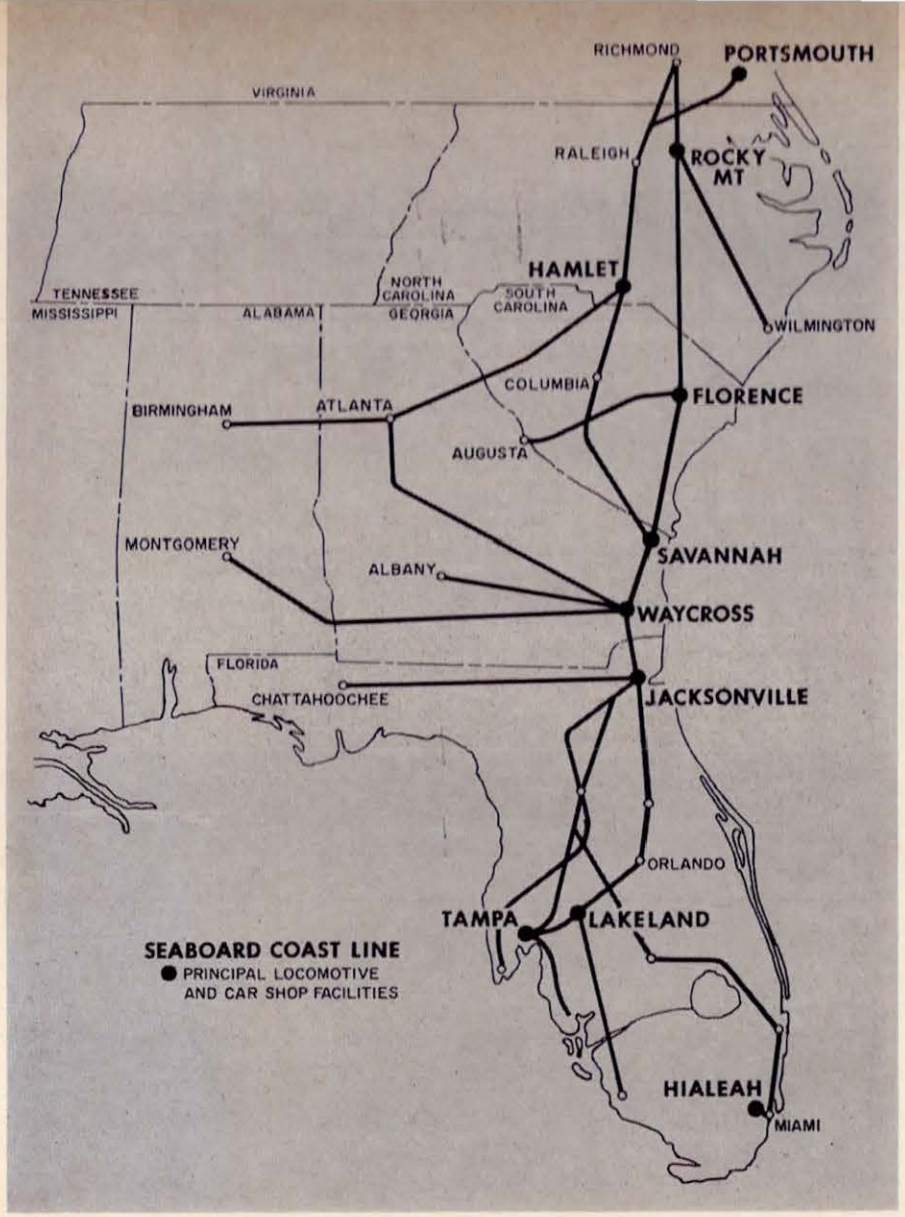
The kids (to the great satisfaction of at least one viewer) were especially concerned over the future of railroads. Mr. Boyd sought to reassure them.

Railroads are still "a basic requirement—they are going to continue to be the basic long-haul transporters of freight," the Secretary asserted, though he recognized that "the long-distance passenger train is dead."

One young panelist asked why mergers between railroads and other forms of transportation were prohibited; in reply, Mr. Boyd made one of his strongest statements to date on the question of common ownership. He said public policy has so far forbidden such mergers—but "in view of such things as containerization, more and more people are going to be asking if public policy should be changed."

The Secretary was not entirely uncritical of railroads. He thought railroads and their suppliers had done "a horribly small amount of research." He also suggested that railroads suffered from a "persecution complex" arising from their feeling that rival modes of transport had been unduly favored by government.

We could quarrel with Mr. Boyd about railroad research. But as for persecution—maybe the Secretary has a point. A persecuted man tends to feel just that way—persecuted.



How SCL mapped equipment changes

Merger planning smoothes the transition in personnel and equipment moves. It involves utilization of shop facilities, renumbering of locomotives and cars; more importantly—the cooperation of ACL and SAL people in working toward a common goal, a new railroad.

REPAIR SHOPS FOR NEW ROAD

LOCOMOTIVE SHOPS:

1. Waycross, Ga. (former ACL)—heavy repair back shop and engine house. SCL system work assigned includes air compressor repairs and truck overhaul. Some power assembly and blower work is done.
2. Jacksonville, Fla. (former SAL)—heavy repair back shop and engine house. System work involves rewiring and processing armatures, repairs to main and auxiliary generators and traction motors. Injectors are repaired for the system. Power assembly and blower work is done.
3. Hamlet, N.C., Hialeah (Miami) Fla.; and Savannah, Ga. (all former SAL), are currently used for running repairs to diesel locomotives. Major wheel shop is at Hamlet.
4. Tampa, Fla. (former SAL) running repairs.
5. Florence, S.C. (former ACL) running repairs.
6. Lakeland, Fla. (former ACL) running repairs.

FREIGHT CAR SHOPS:

1. Waycross, Ga. (former ACL) currently repairing heavily damaged freight cars, heavy repairs to cars, and will build new cabooses. Handles repairs to AB brakes.
2. Savannah, Ga. (former SAL) currently repairing work equipment for the system.
3. Hamlet, N.C. (former SAL) light-heavy repairs to box cars only.
4. Jacksonville, Fla. (former SAL) converted to repairs to box, covered hopper and some passenger cars.
5. Tampa, Fla. (former SAL)—car shop closed. Locomotive shop will be used in 1968 for production line repairs to covered hoppers and wet rock (phosphate) cars.

PASSENGER CAR SHOPS:

1. Portsmouth, Va. (former SAL) and Rocky Mt, N.C. (former ACL) repairs to passenger equipment.

Thorough planning enabled the Atlantic Coast Line and Seaboard Air Line mechanical departments to make a smooth transition to Seaboard Coast Line operations.

A basic factor in the planning was close coordination with operating department directives and policies. The chain of command throughout the mechanical department was laid out before the merger of the two railroads was consummated. On the day of the merger, bulletins were issued to cover all personnel changes.

● **Equipment renumbering.** "In the first five months of operation . . . the progress made has been remarkable," says one mechanical department spokesman. "Prior to the merger, last July 1, renumbering programs were completed for cars and locomotives, a target date was set to establish compatibility for the road's motive power, and shop facilities were allocated for repair and maintenance of locomotive and cars. A new color scheme for locomotives and cars had also been approved."

The locomotive re-numbering system was completed in April 1967. Blocks of numbers were assigned to different types of units for easy identification. Plastic numbers for number boxes were prepared in advance and placed on the units for application on July 1. Currently, 85% of the road's 1,232 units are re-numbered. All number changes are expected to be completed by the end of January 1968. Within five years, all locomotives will be re-painted.

The SCL expects to have every locomotive equipped to operate in multiple with each other by July 1, 1968. A change in air brake equipment is required on 180 units to make them compatible with 26L and 24RL brake equipment. Train control is being applied to 110 former SAL units. A study is under way to select the most effective chemical for water treatment for all motive power. Before merger, one road used a borate, the other a chromate.

● **Six digits for freight cars.** The renumbering scheme for ACL and SAL freight equipment employs six-digit numbers, an ideal setup for IBM computer reporting. Freight cars will be renumbered only when they are-re-painted. The present output of cars from system shop is 350 per month.

Passenger cars will be re-numbered and re-lettered when they are repaired. A total of 229 lightweight cars will have SCL four-digit numbers in the 5000 series. The 562 conventional cars will be re-numbered in the 4000 series.

A total of 25 wrecking cranes, ranging in capacity from 75-250 tons, with former ACL and SAL five-digit numbers, were re-numbered to six-digit numbers by Jan. 1. The first digit (7) indicates work equipment. The fourth, fifth and sixth digit will show the capacity of the crane, e.g. 765160 indicates a 160-ton unit.

"We have come a long way since July 1," said SCL's assistant vice president-equipment, J. W. Hawthorne. "We still have many problems to solve. Our goal is simplification, utilization of our equipment to meet any traffic demand, and placing our facilities and manpower to the best advantage. We have been impressed by the cooperation of mechanical department personnel of both companies to work toward a common goal, our new railroad, the Seaboard Coast Line." ■

RENUMBERING CARS FOR COMPUTERS

FOR ACL CARS:

1. On the series in 100000's—change first digit to 4, e.g., ACL 116,000 becomes SCL 416000.
2. On series 10000 through 99999—except work equipment—add the digit 6 in front of existing number, e.g., ACL 35000 becomes SCL 635000.
3. On series 4000 through 9999 (phosphate cars)—add digits 73 in front of existing number, e.g., ACL becomes SCL 737000.
4. On work equipment in series 60000—add the digit 7 in front of number, e.g., ACL 65000 becomes SCL 765000.
5. On the following series of cars, no change will be made in numbers. ACL reporting marks to be changed to SCL.
   a. Caboose cars in the series 07-0808.
   b. Hopper cars in the series 320001-320700.
   c. RB cars in the series 480644-493884.
   d. Whopper Hopper 500000.
   e. Hopper cars in the series 720001-720700.

FOR SAL CARS:

1. On series 10000 through 99999, except work equipment—add the digit 8, e.g., SAL 3500 becomes SCL 835000.
2. On series 4700 through 9999—add the digits 74, e.g., SAL 7000 becomes SCL 747000.
3. On work equipment in series 70000—add the digit 7 in front of the number, e.g., SAL 72000 becomes 772000.
4. On the following cars, no change will be made in numbers. SAL reporting marks to become SCL.
   a. RB cars in the series 580000-591000.
5. On caboose cars, add digit "0" in front of number and change reporting mark to SCL.

Third Quarter and Nine Months Figures of Calendar Year 1967

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during Period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1967	1966	Operating Expenses: Maint. Way and Structures: Total 1967	Total 1966	Deprec. and Retirements	Total 1967	Maint. Equipment: Total 1966	Deprec. and Retirements	Traffic	Transportation	Total 1967	Total 1966	Operating ratio 1967	1966	Net from railway operation	Railway tax accruals	Net Railway operating income 1967	1966
Akron, Canton & Youngstown	3 mos.	171	1,782	----	1,876	1,970	251	260	19	317	342	173	108	654	1,431	1,441	76.3	73.1	444	260	289	321
	9 mos.	171	5,065	----	5,297	5,576	766	706	58	1,015	996	471	351	1,932	4,381	4,203	82.7	75.4	916	517	734	754
Ann Arbor	3 mos.	293	2,214	----	2,397	2,232	199	285	22	394	475	141	57	1,121	1,850	1,984	77.2	88.9	547	180	221	—79
	9 mos.	293	6,492	----	6,766	6,987	627	776	69	1,194	1,392	429	168	3,276	5,469	5,992	80.8	85.8	1,297	520	301	—170
Atchison, Topeka & Santa Fe	3 mos.	12,922	137,357	10,396	162,830	178,657	24,907	25,756	2,304	35,724	34,112	11,337	4,855	66,168	140,036	138,016	86.0	77.3	22,794	13,697	6,380	19,091
	9 mos.	12,921	420,090	25,800	492,322	523,586	71,749	70,604	7,429	107,427	103,960	33,523	14,720	194,285	412,632	401.720	83.8	76.7	79,690	44,186	31,815	59,420
Atlantic Coast Line	3 mos.	See Seaboard Coast Line																				
	9 mos.																					
Baltimore & Ohio	3 mos.	5,748	91,519	2,132	99,108	104,092	12,000	13.983	1,513	15,463	16,390	2,582	2,497	40,164	76,241	77,821	76.9	74.8	22,867	7,326	1,366	8,663
	9 mos.	5,748	282,327	5,507	305,501	310,791	35,398	38,016	4,905	48,679	49,887	7,653	7,771	121.317	232,142	230,802	75.9	74.3	73,359	21,942	10,786	23,659
Bangor & Aroostook	3 mos.	542	2,489	72	2,657	2,609	509	675	58	1,055	1,101	407	80	954	2,833	3.055	106.6	117.1	—176	289	174	348
	9 mos.	543	10,361	185	10,785	10,164	2,228	2,349	209	3,280	3,138	1,337	265	3,344	9,838	9,664	91.2	95.1	947	855	1,607	1,787
Bessemer & Lake Erie	3 mos.	201	9,778	----	9,956	10.717	1,660	815	121	1,056	939	—181	183	1,710	5.340	4,182	53.6	39.0	4,617	2,734	2,259	3,431
	9 mos.	201	23,646	----	24,052	26,413	3,750	2,660	382	3,561	3,257	—312	517	5,070	14,691	12,560	61.1	60.7	9,361	6,423	4,911	7,598
Boston & Maine	3 mos.	1,529	11,992	1,022	14,360	15,283	1,886	1,920	384	2,356	2,091	631	338	6,958	12,253	11,913	85.3	77.9	2.107	1,313	—696	962
	9 mos.	1,529	38,745	3,137	46,312	46,322	6,029	5.974	1,221	6,977	6,420	1,903	1,035	21.386	37,694	36,531	81.4	78.9	8,618	3,675	362	2,491
CPR Lines in Maine	3 mos.	234	812	112	990	1,293	237	319	59	162	185	54	53	392	952	1,113	96.1	86.1	39	75	—268	—66
	9 mos.	234	4.341	232	4,764	5,390	758	874	177	740	862	162	177	1,408	3,420	3,614	71.8	67.0	1,344	229	248	706
Central of Georgia	3 mos.	1,749	9,729	272	10,456	12,524	2,495	2,425	182	2,615	1,767	696	317	4,662	11,021	10.333	105.4	82.5	—565	145	—1,254	862
	9 mos.	1,749	31,116	789	33,414	37,203	7,281	7,699	537	7,254	6,362	2,111	1,219	14.478	33,063	32,711	99.0	87.9	350	557	—2,245	784
Central RR of New Jersey	3 mos.	571	8,987	844	11,528	13,272	1,473	1,377	370	2,367	2,374	449	342	6,202	11,326	11,824	98.2	89.1	202	1,090	—2,526	—852
	9 mos.	571	27.922	2,924	36,221	40,476	4,358	4,430	1,028	7,077	7,613	1,356	1,057	19,691	34,660	36.232	95.7	89.5	1,561	3,395	—6,388	—3,852
Central Vermont	3 mos.	382	1,868	----	1,957	2,138	536	477	51	380	261	22	39	862	1.896	1,866	96.9	87.3	62	177	—488	—213
	9 mos.	382	5,853	—6	6,108	6,613	1,497	1,424	175	989	862	69	106	2,646	5,803	5,649	95.0	85.4	304	540	—1,021	—500
Chesapeake & Ohio	3 mos.	5,128	90,543	1,201	97,927	99,090	10,600	10,700	1,425	17,833	17,556	6,234	2,476	38.506	75,311	76,380	76.9	77.1	22,616	9,327	10,375	12,128
	9 mos.	5.128	275,477	3,433	295,852	293,118	31,700	31,200	4,399	56,198	55,099	18,824	7.700	117,828	231,617	226,946	78.3	77.4	64,235	27,880	32,656	33,477
Chicago & Eastern Illinois	3 mos.	862	9,641	409	10,539	10,508	1,800	1,277	104	1,990	1,721	568	397	4,082	8,965	8,037	85.1	76.5	1,574	761	—276	1,055
	9 mos.	862	28,351	971	30,918	31.174	5,134	3,700	351	5,723	5,166	1,680	1,181	12,170	26,329	23,763	85.2	76.2	4,589	2,248	—874	3,715
Chicago & Illinois Midland	3 mos.	121	1,183	----	1,239	1,735	116	117	22	235	226	36	7	342	851	965	68.7	55.6	388	240	101	254
	9 mos.	121	4,061	----	4,199	5,565	382	356	65	688	711	107	20	1,133	2,721	2,900	64.8	52.1	1,478	850	422	929
Chicago & North Western	3 mos.	10,179	53,729	5,081	61,046	63,095	10,927	9,796	1,370	10,506	9,629	3,526	1,896	25,205	51,772	48,699	84.8	77.2	9,274	4,875	—1,803	3,816
	9 mos.	10,179	155,088	14,979	177,495	180,972	29,242	27,367	4,085	30.505	29,285	10,215	5.787	75,076	150,079	142,595	84.6	78.8	27,416	14,326	—3,886	10,273
Chicago, Burlington & Quincy	3 mos.	8,556	56,107	5,306	67,310	74,329	8,720	8,937	1,320	12,399	13,258	4,294	2,243	30.019	57,396	57,198	85.3	76.9	9,914	5,438	2,586	7,286
	9 mos.	8,556	171,654	14,014	204,572	213,299	25,361	26,540	3,982	38,286	39,410	12,743	6,849	87.402	170,595	168,474	83.4	79.0	33,977	16.652	10,236	20,744
Chicago Great Western	3 mos.	1,411	6,351	----	6,614	7,779	1.197	1,210	174	1,235	1,235	405	356	2,777	5,890	5,843	89.1	75.1	723	653	—864	337
	9 mos.	1,421	20,280	----	21,107	23,313	3,243	3,262	486	3,905	4,051	1,204	1,099	8,206	17,384	17,712	82.4	76.0	3,722	1,938	—1,134	1,195
Chic., Milw., St. Paul & Pacific	3 mos.	10,511	56,564	3,113	65,656	66.700	9,422	9,702	1,337	9,925	9,892	3,392	1,777	27,020	52,323	52,396	79.7	78.6	13,333	5,662	2,168	3,214
	9 mos.	10,510	163,078	8,505	190,168	192,492	25,549	26,380	4,018	29,557	29.145	9,753	5,299	80,348	153,406	151,418	80.7	78.7	36,762	16.698	6,297	13,834
Chicago, Rock Island & Pacific	3 mos.	7,336	46,485	2,160	52.251	55,949	9,183	8,205	1,500	9,679	9,241	2,248	1,667	23.719	47,721	47,076	91.3	84.1	4,530	4,550	—6,917	—1,135
	9 mos.	7,389	147,931	6,495	166,573	172,806	25,730	22.877	4.325	30,009	28,853	6,831	5,132	73,968	145,342	140,039	87.3	87.0	21,230	13,726	—13,367	3,105
Clinchfield	3 mos.	306	7,332	----	7,387	6,653	750	783	69	1,083	795	588	242	2,064	4,389	3,832	59.4	57.6	2,998	692	2,563	2.185
	9 mos.	306	22,618	----	23,003	21,035	2,373	2,226	205	3,452	2,949	1,668	733	6,319	13,602	12,012	59.1	57.1	9,402	2,081	7,710	7,168
Colorado & Southern	3 mos.	709	3,533	73	3,859	4,188	474	623	41	619	757	314	97	1,637	3,119	3,493	80.8	83.4	740	343	378	297
	9 mos.	709	10,315	198	11,503	12,104	1,458	1,623	161	2,138	2,338	917	287	4,883	9,772	9,992	85.0	82.6	1,731	968	803	1,040
Ft. Worth & Denver	3 mos.	1,362	3,516	123	3,935	6,057	613	845	81	683	806	147	213	1,635	3.505	4,676	89.1	77.2	429	331	—306	365
	9 mos.	1,362	11,969	314	13,444	17,682	1,958	2,289	338	2,436	2,381	454	636	6,035	12,421	13,614	92.4	77.0	1,023	1.046	—1,437	864
Delaware & Hudson	3 mos.	734	9,240	437	9,898	10,357	1,407	1.302	192	2,272	1,984	611	339	3,740	8,446	7,904	85.3	76.3	1,452	888	578	1,228
	9 mos.	734	29,411	983	31,266	31,604	3,771	3,635	558	7,060	6,244	1,846	1,050	11,285	25,212	23,743	80.6	75.1	6,054	3,545	2,568	4.099
Denver & Rio Grande Western	3 mos.	2.153	20,849	873	22,065	23,360	2,841	2,666	376	3,331	3,514	1,321	788	7,556	15,867	15,992	71.9	68.5	6,198	2,798	3,200	3,784
	9 mos.	2,153	63,142	1,877	66.219	67,264	7,904	7,198	987	10,418	10,260	3,988	2,388	22,296	47,071	46.239	71.1	68.7	19,148	8,848	9,856	10,761
Detroit & Toledo Shore Line	3 mos.	50	1,240	----	1,350	1,432	167	138	13	242	242	111	63	605	1.170	1,105	86.6	77.2	181	30	54	95
	9 mos.	50	4,360	----	4,745	4,935	456	406	39	731	730	330	200	1,879	3,556	3,461	74.9	70.1	1,189	375	369	452

Third Quarter and Nine Months Figures of Calendar Year 1967

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during Period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1967	1966	Operating Expenses: Maint. Way and Structures: Total 1967	1966	Deprec. and Retirements	Maint. Equipment: Total 1967	1966	Deprec. and Retirements	Traffic	Transportation	Total 1967	1966	Operating ratio 1967	1966	Net from railway operation	Railway tax accruals	Net Railway operating income 1967	1966
Detroit, Toledo & Ironton	3 mos.	469	5,131	----	5,534	6,479	519	636	108	1,402	1,477	685	208	2,050	4,486	4,742	81.1	73.2	1,048	495	53	856
	9 mos.	469	17,624	----	18,759	20,765	1,617	2,014	220	4,245	4,325	2,184	621	6,613	14,040	14,360	74.8	69.1	4,719	1,476	1,903	3,555
Duluth, Missabe & Iron Range	3 mos.	511	12,326	----	13,793	15,602	1,535	1,151	200	1,215	1,349	540	53	2,861	6,651	6 444	48.2	41.3	7,139	3,967	3,398	4,531
	9 mos.	511	23,841	----	26,739	31,451	4,154	3,407	565	3,947	3.964	1,620	158	6,988	17,696	17.375	66.2	55.2	9,043	5,593	4,021	6 848
Duluth, Winnipeg & Pacific	3 mos.	174	2,083	----	2,111	1.873	551	325	12	126	168	2	38	778	1,538	1,326	72.9	70.7	573	230	25	45
	9 mos.	174	6,089	----	6,199	6,249	1,101	862	46	394	516	8	113	2,227	3,977	3,572	64.2	57.2	2,222	669	532	1,038
Elgin, Joliet & Eastern	3 mos.	205	8,885	----	12,471	13,176	1,040	1,231	104	1,912	1,734	329	143	4,520	9,116	8,735	73.1	66.3	3.356	1,940	1,015	1,221
	9 mos.	205	25,629	----	36,876	39,756	4,007	3,612	317	6,185	5,721	1,116	438	13,890	28.057	26,494	76.1	66.6	8.819	5,470	2,158	4,084
Erie Lackawanna	3 mos.	2,883	47,397	2,454	54,778	58,210	8,037	7,375	1,146	9,433	9,194	2,494	1,258	25,527	47,178	47,058	86.1	80.8	7,600	4,516	—1,543	2,335
	9 mos.	2,883	140,984	7,422	164,117	174,076	20,465	19,410	3,451	29,238	27,236	7,365	3,884	77.075	139,333	137,494	85.0	79.0	24,784	13,426	—1.652	11,908
Florida East Coast	3 mos.	572	4,235	10	4,310	4,758	1,340	1,404	637	872	849	330	166	1,268	4,009	4,091	93.0	86.0	300	162	—197	—157
	9 mos.	572	16,661	29	16,976	17,788	3,856	3.524	485	2,836	3,053	998	474	5,253	13,668	13,985	80.5	78.6	3,308	1,732	—107	65
Georgia Railroad	3 mos.	331	2,157	23	2,386	2,314	362	349	44	382	404	107	139	934	1,957	1,979	82.0	85.5	429	160	81	173
	9 mos.	331	6,977	60	7,756	7,091	1,033	986	113	1.251	1,256	301	428	2.963	6,101	5,899	78.7	83.2	1,655	476	766	666
Grand Trunk Western	3 mos.	946	13,497	653	15,288	14,648	2,281	1.906	169	2,437	1,984	192	397	7,847	13,984	12,579	91.5	85.9	1,304	1,590	—4,189	—2,933
	9 mos.	946	43,647	1,524	48,646	49,013	6,455	5,635	564	7,643	6,656	578	1,179	23,646	41,877	37.939	86.1	77.4	6,769	4,700	8,610	—2,339
Great Northern	3 mos.	8,282	61,022	3,053	68,801	78,674	10,773	11,129	1,255	11,514	12,555	3.243	1,948	26,282	55,101	55,525	80.1	70.6	13,700	7.488	5,450	10,535
	9 mos.	8,282	172,898	7,365	193,380	211,138	30,960	28,802	3.582	33,852	34,262	9,696	5,694	76,709	159,723	154,468	82.6	73.2	33,657	19,591	10,825	24,780
Gulf, Mobile & Ohio	3 mos.	2,734	20,519	518	22,280	22,246	2,878	2,803	281	4,215	4,363	1,235	837	7,541	16,499	16,601	74.1	74.6	5,781	1,828	2,456	2,472
	9 mos.	2,741	63,130	1,590	68,672	67,004	8,600	8,488	841	13,383	12 829	3,733	2,553	22,795	50,322	49.431	73.3	73.8	18.350	6,198	7,747	7,667
Illinois Central	3 mos.	6,688	61,200	6,485	72.099	73,501	9,248	9,756	1,459	12,539	13,688	3,798	2,161	28.049	56,538	57,314	78.4	78.0	15,561	6,480	5,302	5,729
	9 mos.	6,611	187,633	17,851	220,079	217,118	28,247	29,508	4,012	38,623	41,454	11,191	6,299	86,831	173,183	172,539	78.7	79.5	46,896	22,011	14,028	15,326
Illinois Terminal	3 mos.	340	2,064	----	2,308	2,525	307	288	10	450	440	107	123	937	2,003	2,005	86.9	79.4	302	204	—181	217
	9 mos.	340	6,423	----	7,195	7,811	829	817	31	1,268	1,294	322	385	2,843	5.877	5,847	81.7	74.9	1,318	599	—80	785
Kansas City Southern	3 mos.	894	9,442	330	10,801	12,611	1,081	1,244	171	1,931	1,846	741	341	3,978	7,823	7,845	72.4	62.2	2,977	888	1,264	2,133
	9 mos.	894	29,585	831	33,893	37,890	3,064	3,380	514	5,884	5,185	2,098	1,052	12,071	23,629	23,333	69.7	61.6	10,265	2,637	4,579	6,308
Lake Superior & Ishpeming	3 mos.	103	1,952	----	2,395	2,512	303	266	70	350	374	193	8	625	1,384	1,339	57.8	53.3	1,011	312	728	861
	9 mos.	103	3.914	----	4,936	5,047	858	751	209	1,082	1,097	579	26	1.424	3,693	3,546	74.8	70.3	1,243	642	680	1,050
Lehigh Valley	3 mos.	1,094	10,708	----	11,118	11,393	1,208	1,171	262	1,534	1.585	254	382	5,456	9,311	9,257	83.7	81.3	1,807	962	—487	213
	9 mos.	1,094	32,398	----	33,658	33,589	4,053	3,585	852	4,717	4,841	869	1,149	17,087	29,193	28,471	86.7	84.8	4,465	2,898	—2,194	—1,322
Long Island	3 mos.	322	2,208	17,394	20,495	20.368	1,957	2,899	294	4,546	3,927	447	204	11,329	20.053	18,929	97.8	92.9	446	1,310	—1,668	—1,052
	9 mos.	322	6,665	51,363	60,447	59,521	8,398	8,382	827	13,165	11,919	1,337	596	33,303	59,739	55,945	98.8	94.0	708	3,874	—5,822	—3,318
Louisiana & Arkansas	3 mos.	746	6,501	162	7.075	7,026	738	747	72	1,084	1,084	428	279	2,307	4,711	4,792	66.6	68.2	2,364	1,119	659	1,172
	9 mos.	746	19,154	463	20,940	21,329	2.194	2,818	226	3,289	3,064	1.320	869	7,270	14,571	14,746	69.6	69.1	6,370	2,818	1,831	3,141
Louisville & Nashville	3 mos.	5,644	63,055	1,392	67,507	70,995	9,986	8,398	1,186	14,780	14,740	6,625	1,824	27 288	57,758	54,933	85.6	77.4	9,749	3,744	5,258	8,655
	9 mos.	5,644	198,413	3,537	212,485	214,561	28,965	26,706	3,441	44,902	42,832	19,735	5,552	82.092	172,998	165,623	81.4	77.2	39,487	14,724	21,663	26,409
Maine Central	3 mos.	921	5,191	5	5,357	5,416	1,116	1,065	87	1,113	1,047	300	111	1,937	4,639	4,420	86.6	81.6	718	419	145	506
	9 mos.	921	17,366	8	17,818	17,011	3,372	3,229	256	3,572	3,357	884	333	6,234	14,640	13,775	82.2	81.0	3,178	1,242	1.201	1,549
M-K-T Lines	3 mos.	3.017	13,140	----	13,654	13,643	2,734	2,706	315	2,023	2.630	527	727	5,848	12,057	12,227	88.3	89.6	1,597	1,203	—2,144	—1,491
	9 mos.	3,017	40,442	----	42,063	41,174	7,735	7,714	813	6,165	8,277	1,609	2,079	16,846	34,980	36,345	83.2	88.3	7,083	3,632	—3,153	—3,798
Missouri Illinois	3 mos.	444	1,476	—	1,502	1,520	113	153	10	527	451	307	49	350	1,111	1,070	74.0	70.4	391	205	822	895
	9 mos.	444	4,588	—	4,647	4,308	371	363	21	1,524	1,306	910	143	1.053	3,337	3,037	71.8	70.5	1,310	746	2,559	2,396
Missouri Pacific	3 mos.	9,011	69,273	1,242	76,448	78,994	10,165	11,584	1,204	13,044	13,230	3,548	1,943	27,701	56,794	58,711	74.3	74.3	19,654	5.781	6,731	7,993
	9 mos.	9,012	215,163	3,196	237,062	239,358	32,099	32,360	3,177	39,991	39,297	10,589	5,793	82,879	172,654	171,760	72.8	71.8	64,408	19,797	24,318	28,239
Monon	3 mos.	541	4,695	56	5,020	4,964	719	656	64	808	786	213	218	1,915	4,020	3,924	80 0	79.0	999	352	222	327
	9 mos.	541	13,465	191	14,601	15,398	1,836	1,972	178	2,389	2,341	643	697	5,571	11,637	11,699	79.7	76.0	2,964	1,046	782	1,711
New York Central	3 mos.	9,728	124,089	10,493	154,820	165,686	18,542	20,107	3,455	26,548	25,901	7,058	3,399	74,274	130,871	131,525	84.5	79.4	23,949	11.165	—1,199	13,799
	9 mos.	9,738	379,950	30,986	474,534	502,001	53,742	55,790	9,900	82,725	80,949	21,355	10,053	229.187	400,073	397,380	84.3	79.2	74,461	33,824	494	42,881
Pittsburgh & Lake Erie	3 mos.	209	7,965	26	8,417	9,413	986	1,025	181	2,344	2,256	1,176	235	2,932	7,078	7,174	84.1	76.2	1,339	2,406	3,488	3,800
	9 mos.	209	22,047	86	23,564	26,091	2,764	2,757	596	7,870	7,721	3,436	719	8,910	22,004	21,795	93.4	83.5	1,560	6-104	8.519	11,260
New York, New Haven & Hartford	3 mos.	1,550	14,240	8,810	28,219	31.492	4,157	4,290	822	6,306	5,775	1,317	558	15,648	28,693	27,966	101.7	88.8	—474	2,558	—6,504	—2,258
	9 mos.	1553	46,808	26,949	89,659	94,338	13,485	13,052	2,450	18,693	17,668	3,780	1,815	47,671	88,215	85,766	98.4	90.9	1,444	7,498	—17,221	—9,376

Third Quarter and Nine Months Figures of Calendar Year 1967

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during Period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1967	1966	Operating Expenses: Maint. Way and Structures: Total 1967	1966	Deprec. and Retirements	Maint. Equipment: Total 1967	1966	Deprec. and Retirements	Traffic	Transportation	Total 1967	1966	Operating ratio 1967	1966	Net from railway operation	Railway tax accruals	Net Railway operating income 1967	1966
Norfolk & Western	3 mos.	7,588	138,255	1,075	145,796	151,262	13,746	14,993	2,340	22,534	23,218	9,963	3,127	54,060	101,003	100,657	69.3	66.5	44,733	9,768	28,035	32,132
	9 mos.	7,588	419,730	2,861	442,731	454,931	43,922	42,857	6,939	70,750	69,717	29,814	9,656	164,190	309,592	301,111	69.9	66.2	133,189	35,216	78,465	93,721
Norfolk Southern	3 mos.	624	2,404	—	2,462	2,366	436	449	76	432	406	168	165	837	2,060	2,025	83.7	85.6	402	202	55	55
	9 mos.	624	7,409	—	7,636	6,920	1,448	1,218	210	1,281	1,102	492	442	2,462	6,340	5,718	83.0	82.6	1,296	602	217	322
Northern Pacific	3 mos.	6,716	47,232	2,024	52,071	56,580	8,330	9,041	1,077	9,310	9,242	3,109	1,575	20,602	43,514	43,207	83.6	76.4	8,556	4,666	4,579	6,992
	9 mos.	6,735	131,068	5,013	144,785	155,741	22,275	23,763	2,756	28,781	28,125	9,066	4,593	61,448	127,830	125,127	88.3	80.3	16,955	14,651	5,963	15,865
Northwestern Pacific	3 mos.	324	2,349	4	2,375	2,426	1,093	807	54	138	151	2	19	783	2,126	1,838	89.5	75.8	249	221	—479	—44
	9 mos.	327	6,672	11	6,752	7,350	2,642	2,170	172	413	460	8	58	2,271	5,660	5,219	83.8	71.0	1,092	552	—978	—91
Pennsylvania	3 mos.	9,558	166,852	18,554	208,285	230,348	23,676	20,015	4,644	36,566	37,864	9,497	3,303	95,134	170,413	174,254	81.8	75.6	37,871	16,123	1,138	18,533
	9 mos.	9,558	517,364	55,434	646,042	673,190	69,149	66,608	13,392	112,769	111,164	28,293	9,993	298,074	525,963	524,801	81.4	78.0	120,079	50,280	6,022	42,016
Penn. Reading Seashore Lines	3 mos.	331	1,566	129	1,819	2,084	427	433	75	382	375	70	14	1,324	2,288	2,319	125.8	111.2	—469	166	—1,124	—847
	9 mos.	331	5,205	193	5,769	5,896	1,209	1,316	226	1,162	1,220	211	43	4,018	6,821	6,987	118.2	118.5	—1,051	487	—2,943	—2,951
Piedmont & Northern	3 mos.	150	1,679	—	1,731	1,592	146	137	18	128	113	33	103	377	900	863	52.0	54.2	831	379	265	186
	9 mos.	150	5,013	—	5,183	5,169	471	418	57	374	329	100	326	1,123	2,733	2,565	52.7	49.6	2,450	1,088	805	745
Reading	3 mos.	1,232	19,178	1,531	23,007	25,182	3,667	3,791	551	4,750	4,482	1,651	703	10,370	21,262	20,558	92.4	81.6	1,745	2,058	—1,317	1,787
	9 mos.	1,232	62,282	4,900	74,228	77,937	10,780	11,106	1,779	14,679	13,646	4,971	2,232	32,393	65,519	63,155	88.3	81.0	8,709	5,992	—1,665	5,253
Richmond, Fred. & Potomac	3 mos.	118	4,021	1,158	6,046	7,017	578	563	103	851	907	220	88	2,136	4,091	4,283	67.7	61.0	1,955	1,126	669	1,109
	9 mos.	118	13,210	3,334	19,385	20,783	1,634	1,713	295	2,634	2,888	736	270	6,740	12,684	13,241	65.4	63.7	6,701	3,551	2,497	2,878
St. Louis-San Francisco	3 mos.	4,614	33,829	119	35,481	35,274	4,975	4,808	768	5,268	4,830	1,970	1,333	13,614	27,250	26,082	76.8	73.9	8,231	3,368	3,189	4,826
	9 mos.	4,607	103,632	369	108,966	107,156	14,895	15,684	1,906	15,817	15,191	5,845	4,032	40,666	81,888	79,704	75.2	74.4	27,078	10,655	11,485	12,330
St. Louis Southwestern	3 mos.	1,565	22,577	—	22,759	22,583	1,798	2,099	234	3,786	3,439	1,907	648	7,652	14,573	14,649	64.0	64.9	8,187	2,282	6,457	5,142
	9 mos.	1,565	70,674	1	71,346	70,466	5,447	6,319	694	10,924	10,326	5,613	1,975	23,660	44,150	44,349	61.9	62.9	27,196	9,340	19,587	16,446
Seaboard Coast Line	3 mos.	9,384	83,018	5,980	94,308	96,664	11,862	11,222	1,503	18,927	18,196	6,164	3,822	38,827	80,289	75,619	85.1	78.2	14,019	5,085	3,891	9,051
	9 mos.	9,703	273,024	18,970	311,394	302,109	38,734	38,560	4,335	57,591	54,937	19,278	11,677	119,542	245,395	234,246	78.8	77.5	65,999	22,990	24,161	29,361
Soo Line	3 mos.	4,692	21,180	11	21,778	25,351	4,296	4,171	307	3,226	3,437	886	722	8,834	18,135	18,253	83.3	72.0	3,643	1,865	347	2,854
	9 mos.	4,692	62,848	44	64,484	70,216	11,064	10,773	955	9,637	9,385	2,623	2,161	26,392	52,491	51,004	81.4	72.6	11,993	5,531	1,650	7,227
Southern Railway	3 mos.	6,253	69,045	1,656	73,728	78,197	8,400	8,651	960	13,467	13,110	3,936	1,998	25,074	53,208	53,717	72.2	68.7	20,520	6,080	9,420	10,300
	9 mos.	6,253	217,958	4,181	233,032	236,420	25,717	25,386	3,396	40,498	39,448	12,256	6,709	76,963	162,616	160,474	69.8	67.9	70,416	22,464	31,793	31,377
Alabama Great Southern	3 mos.	327	4,976	141	5,464	5,298	656	565	87	1,003	958	337	131	1,739	3,801	3,689	69.6	69.6	1,663	439	876	732
	9 mos.	327	13,954	322	15,418	15,089	1,912	1,713	327	2,984	2,937	968	398	5,202	11,368	10,925	73.7	72.4	4,050	1,183	1,676	1,792
Cinn., New Orleans & Tex. Pac.	3 mos.	337	9,901	145	10,606	9,953	1,314	1,117	213	2,408	2,564	851	288	3,354	7,891	7,785	74.4	78.2	2,715	1,061	2,010	1,593
	9 mos.	337	29,615	347	31,739	32,366	3,600	3,222	930	7,678	7,456	2,898	869	10,041	23,819	22,997	75.0	71.1	7,920	3,299	5,758	6,236
Georgia Southern & Florida	3 mos.	395	2,442	—	2,508	2,428	391	331	27	576	190	27	68	812	1,973	1,484	78.7	61.1	535	117	—392	131
	9 mos.	395	7,385	10	7,653	7,532	1,369	1,089	150	928	636	88	197	2,472	5,348	4,646	69.9	61.7	2,304	331	—447	403
New Orleans & Northeastern	3 mos.	203	2,568	107	2,836	2,896	439	417	83	652	651	300	77	941	2,332	2,390	82.2	82.6	504	288	267	251
	9 mos.	203	7,391	255	8,658	8,589	1,283	1,304	195	1,951	1,961	862	235	2,880	6,976	7,017	80.6	81.7	1,682	851	767	773
Southern Pacific	3 mos.	1,764	183,131	4,777	196,045	210,153	21,959	25,979	2,460	41,046	40,854	14,216	3,251	82,608	160,100	164,470	81.7	78.3	35,545	18,848	6,964	15,141
	9 mos.	11,713	559,504	11,851	596,946	622,035	66,352	73,326	7,597	123,362	124,617	41,312	9,914	242,984	475,754	477,502	79.7	76.8	121,193	57,346	35,295	52,393
Spokane, Portland & Seattle	3 mos.	922	9,335	251	10,204	10,433	1,342	1,301	178	1,500	1,532	401	117	3,961	7,363	7,344	72.2	70.4	2,841	1,295	793	1,061
	9 mos.	922	27,189	627	29,698	30,374	4,068	3,893	531	4,528	4,570	1,268	375	11,422	21,713	21,597	73.1	71.1	7,985	3,973	2,104	3,304
Texas & Pacific	3 mos.	2,016	15,304	282	16,944	18,129	2,248	2,515	270	3,030	3,036	1,087	622	7,142	13,912	14,317	82.1	79.0	3,032	979	691	1,353
	9 mos.	1,918	48,943	810	54,375	55,504	7,149	8,301	874	10,019	9,183	3,187	1,950	21,481	43,219	43,533	79.4	78.4	11,155	3,312	3,340	4,087
Toledo, Peoria & Western	3 mos.	239	1,874	—	2,011	2,021	257	207	23	172	164	49	170	724	1,483	1 386	73.7	68.6	528	146	154	142
	9 mos.	239	5,722	—	6,202	6,232	744	762	65	527	489	148	512	2,210	4,485	4,339	72.3	69.6	1,717	568	404	449
Union Pacific	3 mos.	9,489	130,380	5,820	146,349	157,727	17,518	18,257	1,744	26,336	26,180	11,758	3,543	52,548	108,060	109,087	73.8	69.2	38,290	13,810	22,458	25,027
	9 mos.	9,489	378,471	14,314	422,669	435,873	47,732	52,861	4,934	80,761	75,720	36,097	11,186	152,814	315,856	310,144	74.7	71.2	106,813	47,921	55,384	61,603
Western Maryland	3 mos.	866	10,408	—	10,890	12,228	1,753	1,784	195	2,572	3,038	938	419	4,004	9,372	9,907	84.4	81.0	1,518	920	1,839	1,873
	9 mos.	866	33,378	—	34,990	37,743	5,469	5,424	580	8,460	8,815	2,710	1,292	12,651	29,823	29,970	85.2	79.4	5,167	3,312	5,485	5,894
Western Pacific	3 mos.	1,176	13,847	758	14,962	17,465	2,498	1,909	275	2,857	2,492	960	835	5,820	13.396	12,311	89.5	70.5	1,566	823	421	2,790
	9 mos.	1,176	41,679	1,731	44,401	47,590	6,408	5,680	841	8,334	7,510	2,725	2,615	16,784	38,183	35,362	86.0	74.3	6,218	1,846	3,149	6,605

Crisis at the crossing

(*Continued from page 20*)

cember. Under joint sponsorship of the Department of Transportation and the Texas Transportation Institute, the symposium marked the first confrontation of all interest groups concerned with the crossing problem. Railroaders, truckers, transport researchers, city engineers, state highway officials, suppliers, public service commissioners and federal representatives spent two days on a joint examination of the problem. Their main achievement was the expression of joint responsibility.

Commenting on the symposium, a federal representative says: "Conflict is not the number-one problem anymore." Symposium recommendations covered all crossing areas, from protective devices to hazard determination, and currently they are under consideration by the D.O.T. action committee.

● **Some problems for '68.** There was agreement on many things at Texas A&M. One was the need for separated crossings as the only really safe crossings. There remain in the United States about 215,000 rail-highway crossings at grade level. And the estimated price-tag on separating that many crossings ranges from $86 billion, to $100 billion. As Goodfellow says: "That's almost twice the amount of federal funds spent on all highway programs since World War I. Of course, asking the railroads to bankroll the costs of separating all these crossings would be one sure-fire way to eliminate the problem. The financial drain would simply eliminate the railroads themselves."

There's also agreement that gates at every crossing would help solve the problem. "There's something we can do about drivers who can't hear and signals that don't reflect the existing situation," says Oscar Laurel. "That is, we can physically prevent drivers from entering the crossing. The effectiveness of crossing gates as opposed to flashing lights has been shown repeatedly. In general, there will be only about one-fourth as many accidents at a given crossing after crossing gates are installed."

However, the cost of putting $25,000-gates at the 174,000 grade crossings that need them would be $4.4 billion.

Laurel points out that states may use as much as 10% of total federal funds available to them for the federal highway system for grade-crossing improvement—without being required to match the funds in any manner.

● **'Good, but . . .'** "That sounds like an excellent solution, but it has not worked out as well as might be expected," Laurel says. "The states are actually using only about 25% of the funds authorized. One state has accumulated an authorization of over $100 million, but has spent only about 1% of what was available." He pinpoints two reasons: First, grade crossings must compete with all other forms of highway improvement. Though unmatched, the funds used for crossings reduce the total funds available, and Congress didn't say that any specific sum *must* be spent for grade crossings, but that it *may* be spent. Second, the funds can't be spent for crossings on roadways outside the federal system—about 75% of existing crossings, especially in cities and towns and on county roads.

"Nevertheless, Laurel adds, "the motorists or truck drivers killed at these crossings have paid federal gasoline taxes, and it would seem to be fair to protect them equally with other motor-

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ists who happen to be traveling on the federal highway system.

"Personally, I hope that Congress will take up these problems soon, so that the proven methods of automatic gates can be put where they are urgently needed. It would seem from previous experience that authorizations don't save lives until they are converted into gates."

• **The legal problem.** Ranking with the financial problem in 1968 will be the motorist's continuing practice of racing past flashing lights and around lowered gates as laws prohibiting such moves continue to go unenforced. Of 30 states surveyed, 27 have "stop" laws similar to this one in Colorado: "All vehicles must stop at all railroad grade crossings when a clearly visible electric or mechanical signal device gives warning of the immediate approach of a train, or when a crossing gate or a barrier at a crossing is closed or is being closed." In addition, 15 states have a law providing, as Arkansas' does, that "no person shall drive any vehicle through, around or under any crossing gate or barrier at a railroad crossing while such gate or barrier is closed or being opened or closed." All the states make crossing-law violations a misdemeanor. Fines range from $5 to $500.

"In the final analysis no sign is worth much unless its command is enforced. If drivers showed the same respect for grade-crossing signs that they show for through-way stop signs, we would have no trouble. The average driver stops or slows down at a highway stop sign because he gets the habit of stopping with knowledge that he may get a ticket if he does not do so. We are urging that each traffic officer devote one hour per week toward surveillance of vehicle traffic at railroad crossings," says Hays.

• **Research problems.** One problem to be faced by researchers this year is that of warning devices that operate when a train is not in sight. "What we are talking about is known universally by a simple name. We are talking about a booby-trap. We are talking about a signal that cries 'wolf' and is later disbelieved when it tells the truth," Oscar Laurel says. "Drivers have a positive right, I believe, to be given constant messages by railroad crossing signals."

One solution will be the spreading use of electronic train predictors, of which more than 2,000 currently are in use or are being installed on 40 different railroads. Southern Pacific, for instance, has over 1,000 in service already. The predictors forecast exactly the arrival time of trains and actuate gates accordingly—to avoid unnecessary waiting by motorists. Devices are set off by electronic apparatus that indicates when a train is close enough to present a hazard, regardless of the train's speed. Speed and position of approaching trains are monitored continuously by audio tones transmitted through the rails. ■

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SOUTHERN—70¢, quarterly; 5% Preferred, 25¢, quarterly, both paid Dec. 15 to holders of record Nov. 15.

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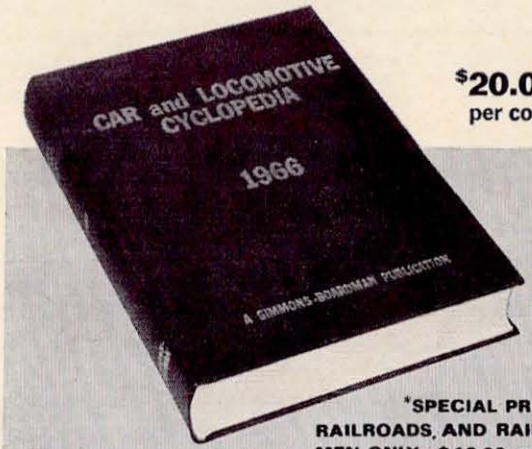

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended Jan. 6 totaled 417,263 cars, the Association of American Railroads announced on Jan. 11. This was an increase of 20,859 cars, or 5.3%, compared with the previous week; a decrease of 34,312 cars, or 7.6%, compared with the corresponding week last year and a decrease of 91,019 cars, or 17.9%, compared with the equivalent 1966 week. Ton-miles generated by carloadings in the week ended Jan. 11 are estimated at 11 billion, a decrease of 5.5% below the corresponding week of 1967, and 14.3% below the 1966 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Jan. 6

District	1968	1967	1966
Eastern, including Allegheny and Pocahontas ..	161,187	176,720	209,181
Southern	92,558	98,888	106,970
Total Eastern and Southern Districts	253,715	275,608	316,151
Northwestern .	46,720	51,750	51,998
Central Western	86,480	92,561	103,689
Southwestern .	30,348	31,656	36,444
Total Western Districts	163,548	175,967	192,131
Total All Roads	417,263	451,575	508,282
Commodities:			
Grain and Grain Products	39,710	45,038	55,762
Livestock	1,032	1,340	1,492
Coal	81,879	96,755	107,736
Coke	7,494	7,414	8,138
Forest Products	28,429	29,669	32,327
Ore	15,046	15,390	17,202
Merchandise l.c.l.	3,167	4,616	6,318
Miscellaneous .	240,506	251,353	279,307
	417,263	451,575	508,282

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Dec. 30 totaled 18,109 cars, carrying 29,822 trailers, compared with 16,946 cars, carrying 27,282 trailers, in the corresponding 1966 week. Loadings for 1967 totaled 1,207,242 cars, carrying 1,983,793 trailers compared with 1,162,731 cars, carrying 1,912,419 trailers, in the corresponding period of 1966.

IN CANADA—Carloadings for the seven day period ended Dec. 21 totaled 67,466 cars, compared with 70,355 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Dec. 21, 1967	67,466	22,500
Dec. 21, 1966	74,804	26,017
Cumulative Totals		
Dec. 21, 1967	3,718,964	1,208,593
Dec. 21, 1966	3,952,625	1,228,113

SPECIAL

► *REALCO.*—Ordered 161 trailers and 10 bogie-mounted containers from six builders—Dorsey, Strick, Miller, Arrow, Kentucky and Great Dane—for assignment to the National Railroad Trailer Pool.

► *Pennsylvania.*—Ordered 40 multi-level automobile racks at a cost of almost $300,000. The tri-level units will be mounted on 89-ft flat cars to be leased from Trailer Train.

CAPITAL EXPENDITURES

► *Santa Fe.*—Capital expenditures for 1968 will total about $82 million (compared with $81 million in 1967), and will cover: 1,850 new freight cars and 40 high-capacity road freight diesel locomotives; a $12-million terminal improvement under way at Kansas City, Kan.; modernizing of yards and service facilities at other points; renewal of 389 miles of track with welded rail (plus 51 miles of welded rail in K.C. yard); installation of 712 miles of microwave between Wellington, Kan., and Silsbee, Tex., for connection with Chicago-West Coast network; installation of computers at four central accounting bureaus for coordination with Topeka data processing center; piggyback and highway equipment for Santa Fe Trail Transportation Co., trucking affiliate; and construction of common carrier pipeline between Amarillo, Tex., and Clovis, N.M., (RA, Jan. 1/8, p. 36).

► *Third Quarter Down 0.01% Below Third Quarter of 1966.*—Expenditures by Class I roads for maintenance of equipment, way and structures in the third quarter of 1967 were down less than $24 thousand, compared with the third quarter of 1966, according to report of AAR Bureau of Railway Economics, summarized below:

	Third Quarter 1967	1966	% Change
Maintenance of Way and Structures	$331,679,957	$334,820,102	—0.9
Maintenance of Equipment	459,275,081	456,158,728	+0.7
Totals	790,955,038	790,978,830	—0.01

CAR OWNERSHIP

► *Serviceable cars decline.*—Revenue freight cars in serviceable condition owned by Class I railroads on Dec. 1, 1967, totaled 1,414,632, compared with 1,420,553 on Dec. 1, 1966, according to most recent AAR Car Service Division report. Estimated total ownership of all railroad- and privately-owned revenue freight cars on Dec. 1 (see table below) was 1,829,084 (average capacity: 62.74 tons), compared with 1,818,493 (average capacity: 60.82 tons), on Dec. 1, 1966.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(Dec. 1, 1967 vs. Dec. 1, 1966)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refrig.	All Others	Total
Class I	1967	571,449	119,120	203,007	420,943	66,727	51,182	59,321	1,491,749
	1966	580,418	103,192	209,826	425,481	64,812	48,478	59,182	1,491,389
RRO&C	1967	0	0	0	0	0	51,885	0	51,885
Refrig.*	1966	0	0	0	0	0	54,219	0	54,219
Private	1967	1,461	27,615	295	2,610	40,896	14,443	171,912	259,232
	1966	1,800	24,000	1,050	1,500	34,500	14,600	168,000	245,450
Class II & S&T†	1967	9,224	819	5,306	8,379	648	688	1,154	26,218
	1966	9,183	849	5,486	9,359	935	472	1,151	27,435
GRAND TOTAL	1967	582,134	147,554	208,608	431,932	108,271	118,198	232,387	1,829,084
	1966	591,401	128,041	216,362	436,340	100,247	117,769	228,333	1,818,493

*Railroad owned and controlled refrigerator car lines.
†Class II railroads and switching and terminal companies.

YOU OUGHT TO KNOW

Northwest Industries files exchange-plan: Northwest Industries, Inc., a Delaware holding company formed to acquire Chicago & North Western and Philadelphia & Reading Corp., has filed with the Securities and Exchange Commission this share-exchange plan: (1) one share of Industries $4.20 cumulative convertible prior preferred stock for each share of P&R common (each share convertible into 0.75 shares of Industries common); (2) one share of Industries Series A, 5% convertible preferred stock for each of C&NW preferred (convertible into one share of Industries common); and (3) one share of Industries common for each share of C&NW common.

Gypsum-AMSTED merger advances: Graham J. Morgan, United States Gypsum Company president, and Joseph B. Lanterman, AMSTED Industries president, have announced agreement-in-principle to merger of their companies. Gypsum would be the survivor, and would issue nine-tenths of a common-stock share for each AMSTED share, in a tax-free transaction. Approval will be sought soon from directors and stockholders of both companies. Gypsum, building-materials manufacturer, has 80 plants; AMSTED, rail-components-producer, has 33 plants.

Canadian traffic meeting: Toronto will be the site of this year's annual general meeting of the Canadian Industrial Traffic League. It is planned for the Royal York Hotel, February 27 and 28. In conjunction with the session, the CITL will hold its 12th Annual Traffic and Transportation Conference on Feb. 29 based on the theme of transportation research, development and design.

Westransco stretches operations: Western Transportation Company, Inc., a California-based rail freight forwarder, has stretched its operating authority through purchase of the operating certificate of Pacific & Atlantic Shippers, Inc., a freight-forwarding division of Pacific Intermountain Express (P.I.E.). The CAB-approved purchase excludes the name, terminals and other facilities of P&A, which P.I.E. will retain. "This new authority will permit us to offer services in all major U.S. markets, including the key textile industry of the south, and the major industrial and manufacturing industries of the East and Midwest," says R. B. Meyers, Westransco chief executive.

Successful car leasing: Pullman's Transport Leasing division reports that the first year of operation of its back-to-back freight car leasing arrangement between two shippers was a good one. Under the plan, Olin Mathieson Chemical Corp., and Equity Union Grain Co. share a fleet of covered hoppers—Olin Mathieson using the cars during the peak movement of fertilizer traffic in the first six months of the year, and Equity Union taking over the cars for grain hauling during the harvest season in the last six months of the year. Willard Cantin, Equity Union general manager, said use of the additional cars permitted the company to be caught up on shipments by Dec. 1, "whereas a year ago at this time we were a million bushels behind."

Transport grant: The Transportation Center at Northwestern University has accepted a $200,000 contract from the U.S. Department of Transportation for a Northeast Corridor research project. Scheduled for late-1968 completion, the project involves development of a network computerized model that will aid decisions by D.O.T.'s Office of High Speed Ground Transportation on such matters as planning, operating, coordinating and expanding transportation systems.

Truck tonnage: Intercity truck tonnage in the week ended Dec. 30 was 17.2% below that of the previous week and 0.5% below the volume in the corresponding week of 1966, according to American Trucking Associations. The decreases were attributed, in part, to snow storms in many areas and the Christmas holiday.

Current statistics

Net Income	
9 mos., 1967	$342,200,000
9 mos., 1966	659,900,000
Carloadings, revenue freight	
52 wks., 1967	28,049,541
52 wks., 1966	29,623,115
New freight cars on order	
Dec. 1, 1967	21,828
Dec. 1, 1966	56,395
New freight cars delivered	
11 mos., 1967	77,612
11 mos., 1966	81,860
Serviceable cars	
Dec. 1, 1967	1,414,632
Dec. 1, 1966	1,420,553

WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

CONGRESS IS BACK—Congress returned to Washington this week for its election-year session, having had only a month's vacation. The 1967 session was unusually long, running through Dec. 15. The returned Congress is the same one that met last year, so all pending legislative proposals remain alive. But little, if any, business will be transacted until the principal Presidential messages are received.

First of these will be the State-of-the-Union Message. Then will come the Budget Message and the Economic Report. Like their predecessors of recent years, one or all of these may be expected to request favorable Congressional action on President Johnson's call for new and increased charges for use of publicly-provided transport facilities. Also, in these general messages, the President might indicate his thinking as to desirable transport legislation. No major new transport proposal is anticipated, however, because none is being advanced by the Department of Transportation for Presidential consideration at this time.

RAILROADS' LEGISLATIVE PROGRAM—The bills still alive include measures to implement some priority items in the railroad industry's legislative program, i.e., the calls for adequate user charges, finality for recommendations of Presidential emergency boards in wage and rules cases, relief from inequitable state and local taxation, and recognition of public responsibility for costs of grade-crossing protection. Some Washington representatives of the railroads entertain hope for favorable action on one or two of these proposals—either the tax-relief or grade-crossing bills, or both of them. That hope must be faint, however, in this election year when Congress' principal business will soon become politics.

All House seats and one-third of the Senate seats will be at stake in the election next November. On the House side that means, of course, that Democratic campaigners for reelection will include Harley O. Staggers of West Virginia, chairman of the Committee on Interstate and Foreign Commerce, and Samuel N. Friedel of Maryland, chairman of the Subcommittee on Transportation and Aeronautics. On the Senate side, Democrats on the hustings will include Warren G. Magnuson of Washington, chairman of the Committee on Commerce, Frank J. Lausche of Ohio, chairman of the Subcommittee on Surface Transportation, and A. S. Mike Monroney of Oklahoma, chairman of the Subcommittee on Aviation.

PER DIEM PROBE—Among the session's early proceedings of interest to railroads will be Senator Magnuson's inquiry into the ICC's failure to add an incentive factor to the per diem rate for rental of freight cars. This probe will get under way soon, being a project of the Commerce Committee's Freight Car Shortage Subcommittee which Committee Chairman Magnuson also heads.

The subject matter will be the ICC report in Ex Parte No. 252 which said the record developed in that case did not yet provide a basis for prescribing incentive per diem. Power to impose an incentive charge came to the Commission in 1966 legislation on which the railroad industry was divided. So the Magnuson investigation will be one of the so-called oversight inquiries which his Committee has conducted from time to time to check on how Congressional agencies, like the Commission, are carrying out their assignments.

SECOND ICC TRY—When it appears for the Magnuson investigation, the Commission will be able to report that it has reopened Ex Parte No. 252 to develop what it considers a meaningful record. The second try is docketed as Ex Parte No. 252-Sub. 1, and the Commission's order requires some 70 railroads to submit new car-supply data.

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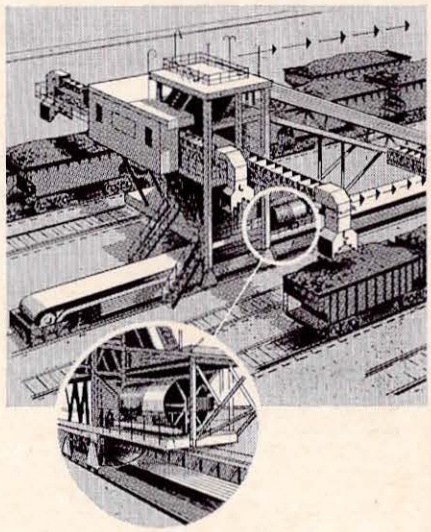

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SUPPLY TRADE

G. L. Green, vice president and general manager, **Pullman-Standard Division** of **Pullman Incorporated,** Chicago, named president, succeeding **J. W. Scallan,** who retired Dec. 31 after 41 years service. **J. M. Gilroy** succeeds Mr. Scallan as president of the **Trailmobile Division.**

James H. Goodman has been elected a vice president of **General American Transportation Corp.** Mr. Goodman, formerly assistant vice president for data processing, will serve as corporate director of information systems.

Delancey J. Davis, president, Castings Division, **General Steel Industries, Inc.,** has been appointed president of the St. Louis Car Division. **Edwin B. Meissner, Jr.,** president of the St. Louis Car Division, becomes senior vice president of the corporation. **Thomas R. Remington,** vice president and general counsel, has been named president of the Castings Division. Mr. Remington will continue as a corporate vice president.

Adrian C. Bornemisa has been appointed vice president of **General Steel International, Ltd.,** Montreal, Que., Canada, a new subsidiary of **General Steel Industries, Inc.,** Granite City, Ill. Mr. Bornemisa was formerly director of planning and development, Atlas Petroleum Group, Nassau.

William C. Powell has been promoted to supervisor—sales planning, Railroad Division, **Timken Roller Bearing Co.,** Canton, Ohio. **Russell J. Carnes** has been promoted to senior sales order analyst, Railroad Division. Mr. Powell previously was schedule supervisor. Mr. Carnes was order clerk.

Barry S. Huret, sales engineer, Alkaline Battery Division, **Gould-National Batteries,** New York area, has been promoted to eastern regional manager, New York.

Douglass S. List, manager, central region, **Okonite Co.,** Chicago, has been appointed general sales manager. **J. Thomas Corrigan,** Chicago district manager, succeeds Mr. List. **Thomas C. Spriggs,** sales representative, succeeds Mr. Corrigan.

John P. Murray has been appointed director of personnel and industrial relations, **Thrall Car Manufacturing Co.,** Chicago Heights, Ill. He was formerly personnel manager, **American Sugar Co.,** Boston.

Keith B. Hall has been named district sales manager, **North American Car Corp.,** St. Paul. He was formerly associated with the **Minnesota Transfer Railroad.**

OBITUARY

W. Hunter Russell, 55, assistant to general manager, sales, Railway Products Division, **Poor & Co.,** Chicago, died Jan. 1 in Evanston Hospital, Evanston, Ill.

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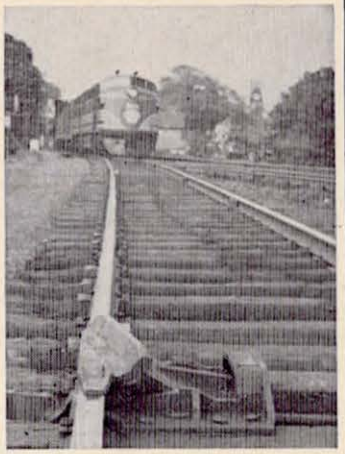

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VIEWPOINT

The coupler: Is it automatic enough?

To validate the theory of evolution, scientists have long searched for "missing links." American railroads—striving to achieve a successful, planned evolution of their operations—may soon be confronted by a formidable "missing link" quandary all of their own.

What may be needed, literally, to pull the railway industry into the future it envisions for itself, are new capabilities in the car coupler. In the wake of a successful crash program which has produced a workable system of automatic car identification (ACI) in a commendably short time, the industry might well ponder the relative priority of other operating problems that loom as potential barriers to speedy, efficient yard and train operation. Today's so-called standard AAR "automatic" coupler would not have much difficulty ranking high on such a list.

The automatic coupler used on this continent is, at best, an automatic "uncoupler." During coupling, it functions automatically only if properly aligned and if one of the knuckles of the mating couplers is standing open. In an era when ACI, electronic classification and automatic switching have been perfected, time must still be allowed in yards for the manual coupling of air hoses. That this pneumatic line on railroad equipment should continue to be connected by hand appears far from logical when technology has made it possible for a reliable jet fuel hose to be connected between aircraft flying at supersonic speeds in the stratosphere. Transit operators have long accepted the operation of automatic air line connections as routine . . . and they probably do far less changing of train consists than anyone else in the industry.

A year or two ago, one R&D director for a railway supply firm observed that "we can build cars to match the present coupler at a sacrifice in long term economy. If the philosophy of train operation is sound, then the method for coupling one car to another is vital and worthy of refinement." The justifications and goals of coupler refinements might well be worthy of another AAR program similar to that which produced ACI. The cost inherent with every coupling and uncoupling of today's freight car would seem to be sufficient incentive to justify some improvement. Whether such a program would find justification only for an automatic air hose connector, for that plus a spring-loaded knuckle always ready for coupling, or for an entirely new design of coupler would not be easily or quickly resolved. Implementing such a program, once it has been outlined, will obviously be extremely long-term and expensive.

•

Perhaps a look at experience overseas would be illuminating. Both U.S. and European manufacturers have been working for years on the design of a standard coupler for all of Europe's railways—one that would be fully automatic in the sense described.

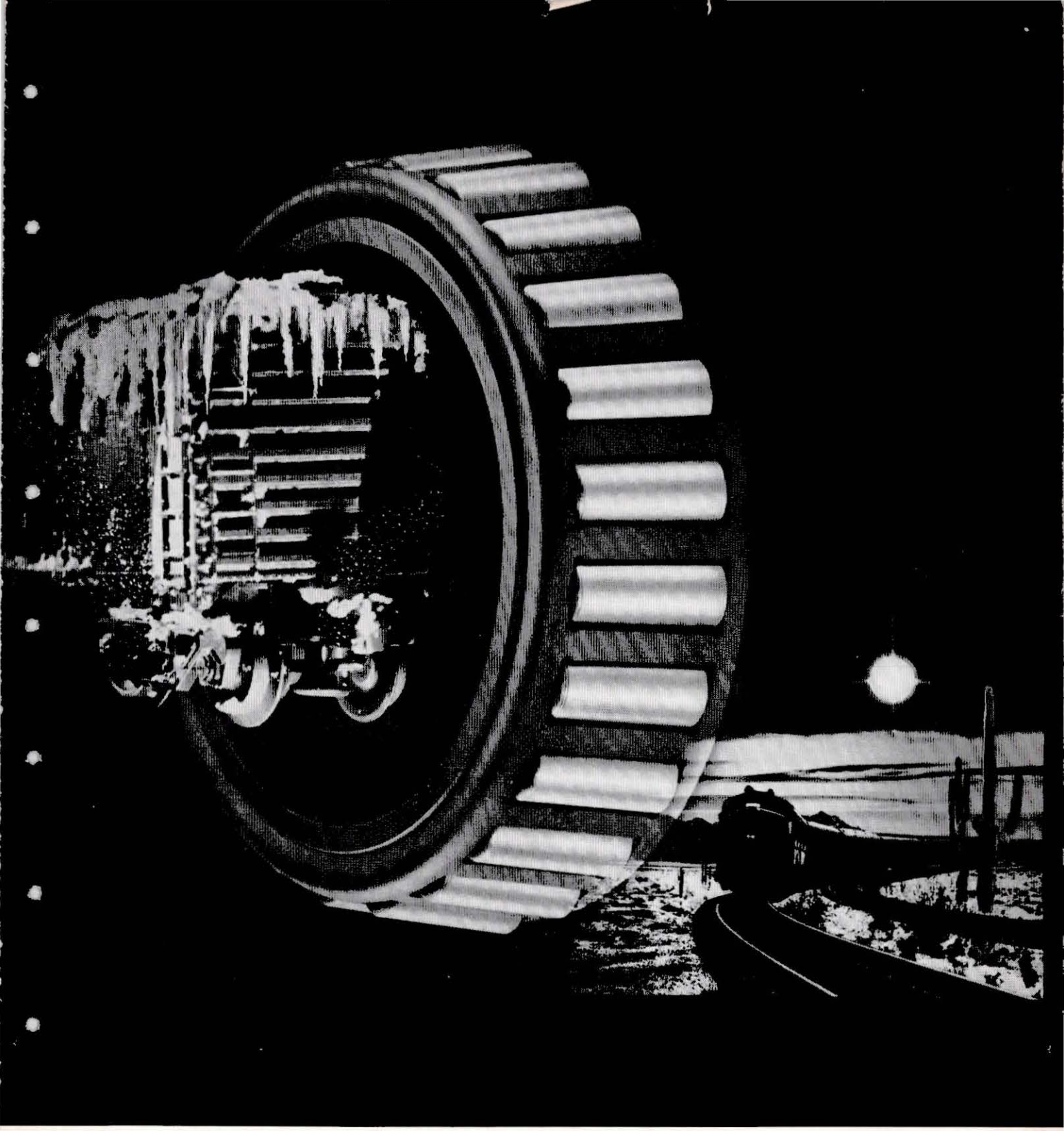
In a way, the work in Europe was prompted by the fact that the railways over there begin so much further behind than U.S. and Canadian railways. That is to say, except for a few permanently coupled trainsets, all freight and passenger cars are still coupled manually.

It is an anomaly that is increasingly harder to justify, when sophisticated, sleek-looking European locomotives or cars pull to a halt in some yard—then workmen have to step between the big units and unlock grapple hooks linking one to the other. It's a little like seeing a duchess wearing sneakers to the opera.

European railway officers admit the problem is a serious one, and the Paris-based International Union of Railways (UIC) has had a battery of experts working on the matter for years. In the first place, any automatic coupler design they came up with would have to be compatible with the only other automatic coupler in wide use on the European continent, the one used in the Soviet Union (and incidentally, adapted from the Willison design of US origin).

In the second place, the UIC experts decided that if the change from manual coupling was going to be made, it might as well go all the way. Russian couplers, like the ones in this country, do not have automatic link-ups of air-hoses and electrical circuits. The UIC, however, wrote a design specification for a *fully* automatic coupler—compatible with the Russian, but one step ahead, technically.

That coupler will soon see the light of day. After years of testing, the UIC approved a design concept, and except for a few minor features, is ready to approve the final design of a standard coupler for all its member railways.



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